

University of Colorado, Boulder
CU Scholar

Communication Graduate Theses & Dissertations

Communication


Spring 1-1-2011

Integrating Constructionist and Managerial Perspectives: Organizational Interactional Expertise in a Knowledge Based Company

Julie Ann Williamson

University of Colorado at Boulder, julieannw@comcast.net

Follow this and additional works at: http://scholar.colorado.edu/comm_gradetds

 Part of the [Communication Commons](#), and the [Organizational Behavior and Theory Commons](#)

Recommended Citation

Williamson, Julie Ann, "Integrating Constructionist and Managerial Perspectives: Organizational Interactional Expertise in a Knowledge Based Company" (2011). *Communication Graduate Theses & Dissertations*. Paper 22.

This Dissertation is brought to you for free and open access by Communication at CU Scholar. It has been accepted for inclusion in Communication Graduate Theses & Dissertations by an authorized administrator of CU Scholar. For more information, please contact cuscholaradmin@colorado.edu.

INTEGRATING CONSTRUCTIONIST AND MANAGERIAL PERSPECTIVES:
ORGANIZATIONAL INTERACTIONAL EXPERTISE IN A KNOWLEDGE BASED
COMPANY

by

Julie Ann Williamson

B.B.A., James Madison University, 1990

M.B.A., University of Denver, 1993

A thesis submitted to the
Faculty of the Graduate School of the
University of Colorado in partial fulfillment
of the requirement for the degree of
Doctor of Philosophy
Department of Communication

2011

This thesis entitled:
Integrating Constructionist and Managerial Perspectives:
Organizational Interactional Expertise in a Knowledge Based Company
has been approved for the Department of Communication

Michele H. Jackson

Tim Kuhn

Matt Koschmann

Pamela Shockley-Zalabak

Karen Tracy

Date_____

The final copy of this thesis has been examined by the signatories, and we
Find that both the content and the form meet acceptable presentation standards
Of scholarly work in the above mentioned discipline.

IRB protocol # 11-0015

Williamson, Julie (Ph.D., Communication)

Integrating Constructionist and Managerial Perspectives: Organizational Interactional Expertise
in a Knowledge Based Company

Thesis directed by Michele H. Jackson

The paradigm in business of tacit and explicit forms of knowledge and movement between these two forms leaves a gap in our understanding of the practices of knowledge as active and emergent rather than static. Work practices and related knowledge accomplishing activities that evidence organizational interactional expertise provide a way of seeing emergent, socially embedded knowledge enacted as expertise as an asset within a business world where the static construct of “knowledge” as an explicit, tangible object is privileged. The practices and related knowledge accomplishing activities identified in this study provide a way of seeing knowledge in action—the ways in which knowledge is continually constructed and reconstructed as related to interactional expertise in problem and solution definition—jointly developed between consultants and clients.

This is a qualitative study based in participant observation, interviews, and document review to build accounts of knowledge accomplishing activities within a site where establishing expertise is important. These data sets provide a view of organizational interactional expertise as knowledge in action. The site for this research is a multi-national mid-sized private management

consulting company. Three practices related to the development of organizational interactional expertise are established, together with seven related knowledge accomplishing activities.

This research establishes a basis for shifting the focus of organizational knowledge from an object to an action orientation in business. At the same time it extends theoretical work in the connections between knowledge and expertise, and the construction of knowledge through communication. It suggests ways of integrating constructionist theory into managerial-business approaches to organizational knowledge. Organizational interactional expertise is the basis of the action oriented focus and the practices identified, and the object-oriented knowledge asset focus of management today is considered as a component of the identified practices and activities.

CONTENTS

CHAPTER 1 INTRODUCTION	1
Introducing Interactional Expertise.....	4
Research Questions	6
Purpose Statement and Contributions	8
Theoretical Contribution.....	9
Practical Contributions	11
Summary	13
CHAPTER 2 REVIEW OF THE LITERATURE	15
Organizational Knowledge in Business	15
The Introduction of Organizational Interactional Expertise	17
The Managerial Perspective	22
Knowledge Activation.....	25
Organizational Knowledge Transfer	27
The Systemization of Knowledge	28
Systems and Expertise.....	36
Work Practices as Informative	38
In Summary	39
CHAPTER 3 METHODS, SITE, AND DATA.....	43
Methods and Data Overview	48
Participant Observer Considerations	50
Narrative Interview Considerations.....	52
Document Review Considerations	54
Informed Observer Discussions.....	55
Site Introduction.....	55
Research Site Access	58
Participants and Data Protection	59
Limitations of the Methods and the Data	60
CHAPTER 4 DATA SUMMARY	62
Data Collection – Overview	63
General Data Collection Processes	63

Data Summary.....	64
Data Variety	67
General Data Observations.....	68
Credentialing	68
Deconstructing Expertise.....	71
Debates over “Generalist” versus “Specialist” and POCs.....	72
Client Requests	73
Data Coding.....	75
Initial Data Pass.....	75
Coding 1 – Signifiers and Discursive Moves.....	76
Coding 2 – Constructing Episodes	78
Episodes in the Environment.....	80
Coding for Episodes	82
Episodes Constructed	83
Coding 3 – Practices, Knowledge Accomplishing Activities,	87
and Organizational Interactive Expertise	87
Coding for Knowledge Accomplishing Activities	88
Overall Data Assessment	91
CHAPTER 5 ANALYSIS	92
Discussing and Researching Internally	94
Identifying Participants.....	95
Using Knowledge Assets in Formal and Informal Ways	97
Developing Language Skills/Rehearsing.....	100
Summary of Discussing and Researching Internally.....	103
Interacting Directly with Clients	103
Asking context appropriate questions.....	104
Storytelling/Sharing Experiences	106
Summary of Interacting Directly with the Client	108
Evaluating and Iterating	109
Debriefing Internally and Discussing the Client Interaction	110
Iterating with the Clients	112

Summarizing Evaluating and Iterating	113
Analysis Summary	114
CHAPTER 6 CONCLUSIONS	116
Limitations and Lessons Learned.....	126
Additional Research Opportunities	128
Summary	130
REFERENCES	134
APPENDIX A OUTLINE FOR FIELD NOTES.....	141
APPENDIX B INTERVIEW GUIDE	142
APPENDIX C INTERVIEW SUMMARY	144

FIGURES

Figure 1. Periodic Table of Expertises.....	20
Figure 2. Types of Episode Variables.....	67
Figure 3. Determinacy and Credentialling.....	70

TABLES

Table 1. Data Set Summary.....	65
Table 2. Additional Activities Observed.....	66
Table 3. Client Commentary on External Perspectives.....	74
Table 4. Coding Explanations.....	75
Table 5. Common Signifiers.....	76
Table 6. Episode Starting Points.....	81
Table 7. Episodes Inventory.....	84
Table 8. Mapping Initial Contacts to Common Moves.....	86
Table 9. Practices of Organizational Interactional Expertise.....	91

A little knowledge that acts is worth infinitely
more than much knowledge that is idle.

Kahlil Gibran

CHAPTER 1

INTRODUCTION

It has been well established that *organizational knowledge* is important to businesses today. A quick scan of popular press shows consistent and regular coverage of the issues, concerns, and associated value of knowledge assets. Companies continue to spend money and time on knowledge tools, management, valuation, and development. A survey of U.S. companies by the CIN Think Tank¹ indicated that the top three reasons executives found knowledge management (KM) important were: (a) faster decisions (84%), (b) better decisions (83%), (c) faster solutions (78%). In a similar survey, 85% of respondents indicated that knowledge management was important for maintaining a competitive advantage. An entire industry has exploded around knowledge management, from systems to track assets to tools for building communities and networks—by some estimates the global market for knowledge management related spending is on track to exceed \$150B by 2012 (Global Industry Analysts, 2008). Efficiency, effectiveness, control, and maintaining market position are all central to what business leaders expect from their knowledge assets. The local bookstore has plenty of books on building knowledge management systems, including human networks, searchable databases,

¹ CIN is the Cambridge Information Network, an industry partnership led by Cambridge Technology Partners that routinely surveys and hosts discussions with senior IT executives in companies around the world.

social technologies, and other approaches to capture, store, and provide knowledge when and where it is needed.

Despite all this interest, attention, and spending, companies have failed to alleviate the risks they associate with organizational knowledge. Half of people surveyed by CIN indicated that for them, knowledge management was unclear at best, or they do not really know what it is. When pushed to define organizational knowledge, business managers fall back on object based descriptions, talking about their databases, the output from their communities of practice, publishing, and other physical artifacts. The desire to establish organizational knowledge as a tangible asset that can be systematically managed in a way that solves their problems continues to frustrate business people, in spite of tremendous time and investment.

Companies struggle to cope with what they identify as major impacts to their knowledge base. Interestingly, they routinely refer to these impacts in terms of people—the younger generation’s propensity to churn through jobs, the constant pressure of watching older workers with 30 or more years of experience exiting, ongoing reorganizations through downsizing, business process redesign efforts, mergers, divestitures, and other major business impacting events. Movement (or displacement) of people is often noted as a reason for investment in knowledge management systems (KMS), indicating at least a periphery appreciation for the social and communicative nature of knowledge. Such appreciation runs counter to the underlying principle of many proposed business solutions that work to create organizational knowledge as objects that can be considered tangible assets (see Leonard & Swap, 2005; Liebowitz, 2008). These business solutions work tends to focus on satisfying the desire to capture what people know rather than valuing and investing in how they actively demonstrate knowing by collectively solving business problems.

Making critical information available is another common reason for investing in organizational knowledge. Yet, business failures that should in concept have been avoided through investment in KM continue to happen. These failures can have far reaching social and economic impacts, as evidenced by events like the Deepwater Horizon oil rig disaster, in which communication and sharing of information across groups and different companies involved in running the platform were cited as contributing factors (Broder, 2011). British Petroleum (BP) has invested millions of dollars in systematic management of organizational knowledge over the last 20 years, and yet has experienced communication breakdowns resulting in disastrous human and environmental impacts. In a hybrid theory and practice book, Collison and Parcell's *Learning to Fly* (2004) details the investment made by BP in organizational knowledge management, using it as an exemplar of how to effectively establish an organizational knowledge base that is systematized and useful. The book celebrates the highly measurable, well managed systems of creating and tracking knowledge through repositories, communities, and other structures, where BP has seemingly cracked the code on answering the question of *what is* organizational knowledge. Still, BP in 2010 reflected on how failures to act on the right knowledge at the right time can occur in spite of investment in systematic knowledge management systems and communities.

Knowledge and communication based failures from companies like BP—who have by all visible business measures created *successful* organizational knowledge bases that are diverse, include community aspects, support communication, and are well supported by the business—shine a light on an ongoing problematic in business related to the idea of organizational knowledge. The question of *what is organizational knowledge* is insufficient in practice in part because in a management paradigm, it leads to answers regarding knowledge as an object,

followed by systems and processes for how to create, capture, and move it from one place to another. Instead of asking *what*, this research suggests that questions about *how* knowledge is enacted leads to interesting ways of understanding the communicative work practices through which knowledge accomplishing happens. It positions an action-orientation, seeing how knowledge is enacted as an emergent, continually evolving phenomena rather than focusing on the end state of an artifact to manage.

Introducing Interactional Expertise

Effectively asking a *how* question led me to consider the ways knowledge is brought to bear on a problem. The idea of experts being a source of enactment struck me as interesting, especially within a communicative frame. A model of expertise proposed by Collins and Evans (2002, 2007) defines expertise as the ability to take action to solve a problem. Their model builds from a basis of general knowledge through to hands on ability to perform complex tasks. They link knowledge and expertise through their proposed “Periodic Table of Expertises” (2007, p. 14), which is discussed in more detail in the next chapter. As an overview here, within the periodic table, “beer mat” knowledge is generally accessible, commonly understood information. Popular understanding goes beyond that a step into what is commonly accepted by most people as scientific fact, perhaps, for example, reading Popular Science to learn about global warming. Primary source knowledge goes further in perhaps reading scientific journals or direct research on global warming. These three types of knowledge make up “ubiquitous tacit knowledge.” The next step, “specialist tacit knowledge”, introduces “interactional expertise” and “contributory expertise” (2007, pp. 14-27).

Collins and Evans call on a “Wittgensteinian frame of mind... to find specialist knowledge located in specialists’ practices rather than in books” (2007, p. 23). It is the practices of acting on knowledge that creates expertise. Within their model, the link to communicative action allows for people outside the scientific community to participate in scientific discussions as interactional experts—people who are fluent and demonstrate “mastery of the language of a domain” (2007, p. 30) without having worked directly with the material at hand. Interactional expertise is grounded in communicative ability but it is more than an ability, because it requires a command of knowledge that creates fluency not otherwise possible (2007, pp. 38-39). For example, someone who is a good conversationalist and has been through a public school education in the United States may be able to speak very comfortably about the topic of teaching in public schools, but not be an interactional expert. On the other hand, a news reporter who has spent a career investigating, studying, and covering public school education topics but who has never spent a day teaching in a classroom may very well be an interactional expert on teaching in public schools. Collins and Evans define interactional expertise as “found in this middle ground between practical activity and books, computers, and so forth,” defining it as “mastery of the language of a domain... (which) cannot be expressed in propositional terms.” (2007, p. 30). Attainment of interactional expertise occurs as individuals move from “interview” to “discussion” to “conversation” (2007, p. 33) with contributory experts and others who can judge expertise in a domain.

The work by Collins and Evans (2007) on developing a model for interactional expertise that identifies the deeply communicative practices required for specialist tacit knowledge serves as a starting point for this research for asking *how* questions. In particular, it is used to consider the nature of organizational expertise as an enactment of organizational knowledge. Specifically,

the concept of interactional expertise is used to think about the way in which members of an organization collectively act on both the managed knowledge objects and their jointly established capabilities to develop a capacity to act. Taking the model into a business context and extending it to an organizational rather than an individual construct will flex the existing work in a new direction. For the purposes of this research, organizational interactional expertise is defined as the collective capability of an organization to apply complex knowledge development practices (Kuhn & Jackson, 2008, p. 460) in ways that support fluency in discussing problematic situations that are outside of the members' direct (contributory) expertise.

Research Questions

I suggest that interactional expertise, as proposed by Collins and Evans (2007) in studying individual expertise relative to fields of science, may be similarly extended organizationally in a way that contributes to our understanding of organizational knowledge by adding the dimension of social fluency and privileging the communication perspective. This leads to my first research question:

R1: How might interactional expertise be evidenced organizationally?

The study of *knowledge accomplishing activities* offers a methodological framework for practice based research (Kuhn & Jackson, 2008). This framework provides a way of examining elements of identification, legitimacy, and accountability, and considering the dimension of determinacy within a situation, with an emphasis on the communicative acts that take place as knowledge creation or application is accomplished. Building on this framework, I suggest adding the dimension of fluency as Collins and Evans (2007) use it, and examining situations where organizations are being represented as possessing the interactional expertise needed to craft a

conversation about a problem with which they may not have contributory expertise. With a focus on knowledge accomplishing activities, a second research question is raised:

R1.a How do knowledge accomplishing activities relate to organizational interactional expertise?

By placing the emphasis on the activity of enacting organizational interactional expertise rather than focusing on the knowledge objects as end results these questions allow communicative phenomena to be seen, even peripherally.

Collins and Evans (2002, 2007) foreground the tensions created when the scientific community is asked or expected to incorporate and react to contributions from non-scientists, or people who lack contributory expertise in their domains. Work in expertise has been done particularly as it relates to scientific or technical fields (Anderegg, Prall, Harold, & Schneider, 2009), including early work by Collins and Evans (2002) in which they introduce the “third wave of science studies – studies of expertise and experience (SEE)” (p. 236). My research here turns a similar eye to the ways in which business communities interact regarding business problems. In particular it looks at the ways in which management consultants’ practices are used to create a fluency that lets them become a part of the conversation with their targeted clients when business problems are made apparent.

In work with the scientific communities, the *problem of extension* is a blurring of boundaries between the public and scientific *experts* who may or may not agree that the public has a right to take part in conversations about scientific matters (Collins & Evans, 2007, pp. 113-114). In business, scientific expertise is less often prevalent (although it certainly comes into play in businesses that deliver scientifically based products and services, for example health

care). The problem of extension is embedded in the interactions between companies and external organizations, including vendors, partners, regulatory agencies, public interest groups, advocacy groups, investors, and advisory services, as well as interactions between different business divisions or internal support organizations.

Purpose Statement and Contributions

The purpose of this research is to build a perspective on organizational interactional expertise as a way in which knowledge is communicatively enacted. From this perspective, new questions for ongoing investigation and theory development are suggested. At the same time, suggestions for how this idea can be meaningful in practice are drawn from the analysis and conclusions. The research specifically uses an examination of the discursive moves through which organizational interactional expertise is evidenced, as seen in knowledge accomplishing activities, to establishing this type of integration. My research focuses on advisory services, specifically management consultants, to create a basis for understanding organizational interactional expertise and how it can be a way to expand the conversation about organizational knowledge and relative value that takes place in business today.

This research provides a set of data that demonstrates how a knowledge-based organization enacts interactional expertise through its day-to-day practices and in conjunction with its clients in joint problem definition primarily where there is a high degree of indeterminacy. This line of questioning opens up the potential for further examination of organizational expertise as an enactment of knowledge that is jointly and communicatively constructed.

The purpose is not to conduct this research with an eye towards systematizing the knowledge accomplishing activities observed, or systematizing the attainment of organizational interactional expertise, or proposing a management model for expertise that is repeatable, predictable, and rote. Nor is the purpose to establish an argument against knowledge management or systematized organizational knowledge approaches. Rather, it is to understand how organizational interactional expertise is important to both the theory of organizational knowledge as socially constructed and the managerial commitments to knowledge management in companies today. The site for this research is a management consultancy, by definition a knowledge based organization with a strong commitment to managing knowledge assets that are subsequently valued and sold. This research is not intended to imply that consultancies are good or bad, right or wrong, only that the business practices they enact are interesting and insightful in terms of organizational knowledge and interactional expertise.

Theoretical Contribution

Weick's (1988) emphasis on process over static organizational structures and his ideas on action, summarized in his comment that "The term enactment is used to preserve the central point that when people act, they bring events and structures into existence and set them in motion" (1988, p. 306), together with Spender's (1998) call for a pluralistic epistemology that can understand both the objective and tacit and that "makes it possible to consider traffic between them" (p. 67), are part of the inspiration for this research. Not long after, Cook and Brown (1999) suggested "bridging epistemologies" (p. 393), citing the tradition of the "epistemology of possession" (pp. 383-384) and an "epistemology of practice" (386-387) and centralizing the activity of knowing as an action-oriented function. Within knowing, the "generative dance" is experienced in the practices (both individual and organizational) related to

applying all four types of knowledge in a useful way. The idea of organizational interactional expertise extends this emphasis on knowing as opposed to knowledge by focusing on the communicative practices that support expertise.

Even more recently, Kraaijenbrink, Spender, and Groen (2010) suggest a radical reframing of the traditional managerial Resource Based View (RBV) theory of the firm into an “inherently dynamic and subjectivist framework” (p. 350). They propose less integration and more of a restatement of the theory, together with a call to bring the constructionist perspective into a space where management theory is strongly enacted in the workplace. As well as pushing for change, there have been calls to further examine the work that is done in the workplace, where influences like RBV thinking are strongly in play. This research continues these traditions of looking for integration of constructionist theories with practice through a close examination of work being done and the context in which that work takes place.

At the same time, this study both leverages and challenges the rational/systems based approaches to organizational knowledge as a constructed object. Consistent with practice-based research agendas, this work focuses on the work practices through which action occurs. At the same time, the research recognizes the place of systematized models that are useful for defining knowledge objects and how they move through a system or a cycle as they are objectified (see Choo, 1998; Nonaka & Takeuchi, 1995). These knowledge objects have a place within the broader work practices that show knowledge in action. From an organizational communication theory perspective, this research provides additional visibility to how organizational interactional expertise is socially constructed and to the work practices and discursive moves that help accomplish its construction. These work practices often include the application of traditional knowledge objects.

Practical Contributions

In everyday experience, the gap between the business environment and constructionist theory is limiting both to research and to practice. Finding a way to bridge the two can potentially change the conversation, the investment focus, and the experience of working in a knowledge based environment. I suggest that the gap is tied to the challenge of effectively bringing constructionist theories of knowledge and knowing to a workplace where scientific management principals are strongly embedded. Offering emergent concepts in meaningful and articulate ways is simply hard. A part of this challenge is the polarized presentation of either / or options – constructionist or cognitive, emergent or systematized, social or managerial, tacit or explicit, to name a few. These options are limiting even at an educational level—Spender (2008) suggests that the rational approach to education in management would be better served if management were taught as an art form, with a knowledge base that is “deep knowing that is both context specific and context defining” (p. 40). This type of melding can offer new ways to consider management and its connection to organizational knowledge as a construct. Concentrating on the communicative work practices of knowledge workers builds a basis for changing the business interest in organizational knowledge to focus more on specific contexts and supporting activities that drive knowing rather than building object based assets.

This study provides a better understanding of how organizational interactional expertise is materialized through communicative activities, and the way in which interactional expertise can contribute to solving business problems. By developing an understanding of emergent knowledge practices and the embedded social requirement for interactional expertise, firms can better determine how to leverage traditional knowledge management systems as well as creating a culture in which emergence is supported and communicative competencies can be developed.

For example, while it is now a more common business investment to fund formal knowledge networks (Liebowitz, 2008), informal networks and connection are still experimental and not yet supported through commensurate investment (Collison & Parcell, 2004). However, these informal networks play an important role in interactional expertise. There is the potential to reframe knowledge accomplishing activities as valuable time spent constituting organizational interactional expertise rather than seeing them as a cost to the organization (Spira, 2005) and a challenge to the efficiency paradigms that pervade knowledge management systems development.

The social requirement of organizational interactional expertise underscores the value of time spent seeking answers and input from others and the importance of interaction. Through the ability to fluently discuss problems that they have not solved before, people collectively create a capacity to act. This challenges the reductionist tendency in business to create a single efficient process that uses knowledge management to reduce or manage human contact and variety. Defining organizational interactional expertise is important for considering a different perspective on how to value and nurture organizational knowledge in practice. This research provides an alternative to the pure systems approach to knowledge management, lending support to efforts to break the process chains and allow for messier and less controllable environments where there is value in unpredictability. Establishing the importance of organizational interactional expertise supports critical thinking and communicative competence among workers rather than the ability to follow rote processes and create expected results, driving innovation and creative problem solving in business.

Summary

This research suggests a different way to consider organizational knowledge that may help to bridge constructionist theory and business environments, bringing them closer together in practical ways. It requires moving away from the continuum of tacit/explicit knowledge that sets up the object conversation, and moving towards answering the question *what is organizational knowledge*. This research looks instead at how organizational interactional expertise is created and maintained through the everyday communicative work practices of a knowledge based company, using these practices to inform an understanding of how members of an organization actively develop ongoing competencies through which they act on problematic situations. Organizational interactional expertise is suggested as an important concept where organizational knowledge is enacted, where knowledge assets are put to work, and where communication is a necessary dimension of how companies unlock value from their knowledge assets by bringing them to bear on a problem.

In raising these questions, this study establishes a way for constructionist theories of knowledge to integrate with managerial approaches and change the traditional problematic of knowledge management, effectively raising different questions about what is valued and nurtured in the workplace. At the same time, it advances theories of organizational knowledge by further flexing a practice based methodology for seeing knowledge accomplishing work practices. The research creates a connection to expertise that helps to describe organizational knowledge outside of the ‘tacit-explicit’ paradigm by using an action-oriented frame.

The following literature review establishes the foundation for considering organizational interactional expertise, the challenges presented by managerial influences, and the related practice based approaches to studying knowledge as communicative and co-constructed by

organizational members. The methods and site for this research are presented in Chapter 3, and Chapter 4 summarizes the data that were collected. The analysis in Chapter 5 provides a description of how the analysis of the data were structured and what the results were, and Chapter 6 offers conclusions and opportunities for taking this work forward.

CHAPTER 2

REVIEW OF THE LITERATURE

In considering how to construct a basis for organizational interactional expertise, I started with a review of the traditional research in organizational knowledge that works to build an answer to the question of *what is organizational knowledge*. While I moved away from this as a basis for this research, understanding it is informative and provides a basis for stepping away from it. I then used an in-depth perspective on an expertise model to move into how to connect with the premise of organizational interactional expertise through a more detailed review of the model proposed by Collins and Evans (2007). I followed with additional discussion of some of the managerial perspectives that create the environment of business organizations today, connecting to organizational learning, managerial studies, and the development of organizational knowledge as a construct and how it has materialized in business.

Organizational Knowledge in Business

In reporting out research on knowledge management projects, Davenport, DeLong, and Beers (1998) highlight four key objectives companies have regarding knowledge: (a) creation of knowledge repositories, (b) improvement of knowledge access and transfer, (c) enhanced knowledge environment, and (d) management of knowledge as an asset. Notably missing from this list is the effective and meaningful application of knowledge to solve problems or otherwise advance business objectives. Pursuing these four key objectives over the last 20 or so years has led to the development of a multi-billion dollar industry. Apparently, business people have a clear sense of how to manage knowledge, in spite of not being confident in what it is, leading to management techniques being applied to an ambiguous asset in pursuit of control over something that can be reduced to an objectified thing. This urge towards reductionist tendencies

and desire for control creates the drive in practice to answer the *what* question, and to answer it by way of what can be managed—explicit assets.

In research, quite a bit of work has been done on answering the question *what is organizational knowledge?* Choo (1998) focuses on the importance of codifying explicit knowledge that stays with an organization after the authors exit, although this can present complications of contextualization that come from individual experiences. This commitment to the tacit-explicit continuum is found throughout the research on organizational knowledge, for example, the SECI model (Nonaka & Takeuchi, 1995). Research that concentrates on the processes associated with the population of different streams of organizational knowledge in the workplace (e.g. networks, databases, and wikis, see Collison & Parcell (2004)); Leibowitz, 2008) continues to feed the reductionist appetite for creating predictable outcomes in all dimensions of work. Other organizational knowledge research agendas have concentrated on the distinction between categories or hierarchies of knowledge and defining an object that moves from one level to the other (see Ackoff, 1989; Rowley, 2007). These studies look for a way to label something as, for example, data, information, knowledge, wisdom, which again drives attention to artifacts rather than the communicative activities through which they are created or applied.

Tsoukas and Vladimirou (2001) tackle the question head-on and conclude that “Organizational knowledge is the capability members of an organization have developed to draw distinctions in the process of carrying out their work, in particular concrete contexts, by enacting sets of generalizations whose application depends on historically evolved collective understandings” (p. xx). These evolved understandings stay with the organization although they move and adapt to current conditions. This work helps to stretch the question into an action oriented frame in which members are “enacting,” a useful frame for moving to interactional

capabilities, and is used to support the shift to asking how this enactment takes place. However, in the workplace, the *capability* of individual members is still managed within a strongly objectified framework, so many businesses resort to tracking capabilities and credentials through training and development matrices or by counting their artifact production (Liebowitz, 2008). Looking for ways to see and understand the communicative work practices used to enact a capability to act on collective understandings supports asking questions about interactional practices.

The Introduction of Organizational Interactional Expertise

Moving from the *what* question of knowledge to the action based question of *how does organizational expertise get enacted* changes the focal point of research. Instead of working through the differences between tacit and explicit, looking for a process for conversion to a manageable object, or trying to find a tangible thing to address, a *how* question focuses on practices through which knowledge is enacted. Extending the *how* question to consider how organizational knowledge is manifested through interactional expertise, using the model developed by Collins and Evans (2001, 2007) as a starting point, places the research lens on communication and the ways in which organizational communication supports an understanding of *expert* in a particular topic. The work done by Collins and Evans (2001, 2007) to develop the idea of expertise in a way that shifts the conversation about knowledge from *what* to *how* creates some space from the tacit/explicit commitments of other work. By instead thinking about how expertise is developed, enacted, and acknowledged by others, the focus turns to the conversations that are had rather than the artifacts or tangible assets that are created.

For this different type of question, I look to the research in Science of Experience and Expertise (SEE) in which Collins and Evans (2007) have proposed a new taxonomy of expertise

that challenges the binary, criteria driven “expert/not expert” construct. They suggest that there are varying states of expertise that have important differences best seen communicatively, if one considers that expertise, like knowledge, is a social process. A definition of expertise being developed is that of “interactional expertise” (Collins & Evans, 2002, 2007), which is a designation for people who can speak fluently about a topic but who cannot or have not directly experienced the topic. Specifically, Collins and Evans define interactional expertise as “the ability to master the language of a specialist domain in the absence of practical competence” (2007, p. 30). Interactional expertise is deeply communicative, developed through a combination of traditional learning and routine affiliation and socialization with experts, allowing for fluency in the language of a particular domain without the first-hand knowledge of a “contributory expert.” Interactional expertise is the bridge between commonplace knowledge and deep, advanced knowledge of a domain. Considering how expertise is demonstrated and acknowledged requires answers about communication and fluency. This keeps the focus on how expertise emerges from communicative experiences, shifting away from the *what* question, which lends itself to an objectified response.

The Collins and Evans (2007) “Periodic Table of Expertise” separates interactional and contributory expertise (p. 14) in part to acknowledge the appropriateness of involvement in scientific discourse by people without direct contributory expertise. Historical “expert/not expert” scientific attribution embedded with the commonly accepted 10-year standard (Cloud, 2008) would disallow participation by non-contributory experts in a conversation as a valid source of expertise. This attribution is based on cognitive theories and is used in later work on organizational expertise that applies a primarily cognitive and process driven commitment to

organizational phenomena that still focuses on movement from tacit to explicit (Bingham, Eisenhardt, & Davis, 2010).

As science and technology takes a more democratic turn, engaging citizens in scientific discourse has recently emerged in several studies in Europe and the United States, in which the legitimacy of citizen contributions are examined (Lovbrand, Pielke, & Silke, 2010, pp. 4-5). The information age lends itself to democratization of previously specialized conversations; however, there has been a lack of distinction between the common understanding of an expert as someone with many years and hours of practice in a particular discipline and the contribution of an informed citizen. In establishing their periodic table, Collins and Evans (2007) create a space for informed contribution in their definition of interactional expertise. The table proposed by Collins and Evans (2007) attributes to individuals different kinds of expertise that are highly communicative and demonstrated through the ability to engage fluently, asking the question *how is your expertise used in communication* rather than *what do you claim as expertise or knowledge*. Knowledge is entwined with expertise, in that individuals have “knowledge about, or expertise in ... domains” (Collins & Evans, 2007, p. 17), as highlighted in the periodic table they developed (Figure 1).

UBIQUITOUS EXPERTISES					
DISPOSITIONS	Interactive ability				
	Reflective ability				
SPECIALIST EXPERTISES	UBIQUITOUS TACIT KNOWLEDGE			SPECIALIST TACIT KNOWLEDGE	
	Beer-mat knowledge	Popular understanding	Primary source knowledge	Interactional expertise	Contributory expertise
Polymorphic					
Mimeomorphic					
META-EXPERTISES	EXTERNAL (Transmuted expertise)			INTERNAL (Non-transmuted expertise)	
	Ubiquitous discrimination	Local discrimination	Technical connoisseurship	Downward discrimination	Referred expertise
META-CRITERIA					
Credentials		Experience		Track Record	

Figure 1. Periodic Table of Expertises (Evans & Collins, 2007, p. 14)

The Periodic Table as designed by Collins and Evans (2008, pp. 14-27) identifies four dimensions: Dispositions, Specialists Expertises, Meta-Expertises, and Meta-Criteria. Dispositions and Meta-Criteria are less emphasized as more tactical, less subjective characteristics of credentials, experience, and track record, which can individually be checked and assessed as criteria of a person's expertise. Meta-Expertises are divided into transmuted and non-transmuted, the first being more social than technical, the second being based more on possession of experiences and/or credentials that provide merit for claims of expertise. These areas of the table help to categorize and understand where different types of expertise can be considered. It is, however, in the Specialists Expertises part of the table that Collins and Evans spend most of their time, and this is also the section that creates the foundation for this research.

The table builds a perspective on expertise based on “ubiquitous tacit knowledge” and “specialist tacit knowledge.” Ubiquitous tacit knowledge is the kind of knowledge that gets one through life—from a “beer mat” understanding of things (coined from a note of printing

informative placemats at a layman level that explain, for example, how holograms work) to popular understanding and primary source knowledge. Popular understanding includes information generally available in common press. This might include books like *A Brief History in Time* by Stephen Hawking, or others that seek to make complex topics accessible to the non-scientist community. Primary source knowledge goes a step further into reading professional literature, but at the risk of not sufficiently understanding the disputes within the texts to fully comprehend the science being discussed. Moving from ubiquitous to specialist tacit knowledge expands on the recent transformation identified by Collins and Evans (2007) where

expertise has been understood is a move away from seeing knowledge and ability as quasi logical or mathematical and toward a more wisdom based or competency-based model ... expertise is now seen as ... Based in what you can do rather than in what you can calculate or learn. (p. 23)

Specialist tacit knowledge is the point at which mastery of tacit knowledge together with cultural immersion allows for expertise to develop as a capacity to act. The introduction of a split between interactional expertise and contributory expertise at the level of specialist tacit knowledge is introduced by Collins and Evans (2002, 2007).

For the purposes of this study, specialist tacit knowledge and its related expertises grounds the research in organizational practices used to solve a problem, address a business need, or respond to a request, with a focus on how embedded understandings and defined knowledge objects are brought into play. As such, this study does not consider other areas of organizational knowledge or ubiquitous expertises including deeply cultural navigation (how do I get my vacation approved?); unwritten rules (don't leave until the boss leaves); or other areas of important cultural knowledge bases that are used to move appropriately throughout the organization. It is possible that someone could be an expert in organizational navigation, however, this study does not tackle this area of potential. It also puts to the side the

commonplace knowledge—the equivalent of individual *beer mat* knowledge in the Collins and Evans (2007) vernacular.

The Managerial Perspective

Systematized approaches to organizational knowledge have resulted in a management desire for an asset based approach to define organizational knowledge as something to be found or created, captured, made tangible, stored, managed, retrieved, and used in some way. In this frame, the goal is to move tacit knowledge to explicit, possibly looping back through in an iterative cycle (Nonaka, 1991, 1994; Nonaka & Takeuchi, 1995). These approaches have been largely embraced in business and drive much of the investment in digital asset tracking systems or Knowledge Management Systems (KMS). In a parallel track, a more communicative area of research emphasizes organizational knowledge as embedded in communities of practices and the networks of the organization (Lave & Wenger, 1991; Monge & Contractor, 1999, 2003). Taylor and Van Every (2000) explore the idea of the organization as emergent and communicatively based, offering a way to think about construction and co-construction as an ongoing activity. These approaches are more open to ideas of organizational knowledge as emergent as dialog takes place and experiences are shared; however, in business the communicative emphasis embedded in communities of practice theory has often been co-opted into a management model that requires communities or networks to produce tangible digital assets that can be tracked and managed (Leonard & Swap, 2005).

Both of these approaches lean heavily on the tacit-explicit delineation, seen in the routine “shout out” to Polanyi (1966) that occurs in many journal articles on organizational knowledge. In management, the question *what is organizational knowledge* seems most often addressed in

practice by the explicit-tacit duality. It is expressed in terms of what can be organizationally stated and objectively managed (explicit) and what may not be known and cannot be stated, but is experienced, performed, or otherwise understood (tacit), and which is harder to objectively manage and rationally produce in a reliable, predictable, and routine manner. In business, this positioning sets up the ongoing managerial/constructionist duality, where management strives to “make things explicit” as a goal, and constructionist commitments are murky at best, difficult to measure with traditional business metrics, and may be acknowledged through investment in networks or communities, but only inasmuch as they generate explicit output that can be subsequently managed. The question *how is knowledge enacted* rarely seems to be asked in business. As Spender (2008) suggests, attending to the knowledge management problematic of finding knowledge in one place and wishing it were in another (p. 164) is a focus, including how often it is used, how much it produces, and how much support is provided.

Against this positivist backdrop of data, reports, and facts, continual emergence of knowledge as an asset is understandably a frustrating concept for companies. There continues to be a rational belief in corporate America in the possibility of establishing an ultimate source of truth that works together with a powerful managerial need to systematically control organizational assets. Since before the first memo filing system as seen in the early days of the DuPont Company (Yates, 1989), systematizing and organizing information has been a part of the American approach to business. Control and measurement of assets is a managerial imperative (Garvin, 1998, p. 50), so the construction of knowledge as a strategic asset (Bollinger & Smith, 2001, p. 9) has driven continued focus on applying traditional management tools for tangible assets to the less concrete asset of knowledge. The introduction of the DIKW (data, information,

knowledge, wisdom) hierarchy into business vernacular further contributes to the perception of knowledge as a “thing” (Rowley, 2007) that can be managed through process.

Within this backdrop, the current work environment in many U.S. companies is incommensurate with the idea of organizational knowledge as a practice in which the asset is a constantly developing and somewhat unpredictable construct. Accepting that organizational knowledge exists not in explicit, measureable form, but rather within the elusive practices that people use to connect with other people to solve problems, make decisions, educate themselves, and develop new ideas is opposed to the managerial instincts of businesses after decades of scientific management influences.

Economic shifts have also contributed to the attribution of “asset” to knowledge in the workplace. In the United States, a changing market economy towards services rather than manufactured products together with a rapidly changing workforce has created a new corporate expectation regarding the importance of organizational knowledge. In practice, organizational knowledge is now an acknowledged part of the value of a company (Boisot, 1998; Bollinger & Smith, 2001; O’Dell & Grayson, 1998). It has moved from being a metaphor to being an object through years of analysis, speculation, and development (Gherardi, 2006).

Perhaps because of managerial anxiety with dependence on organizational knowledge and the challenges controlling it, Western businesses have seen a period of tremendous investment in knowledge management, knowledge management systems, knowledge networks, and knowledge processes. Significant work has been done to legitimize the *knowledge as asset* designation by making organizational knowledge tangible and fungible—making knowledge look like other more traditional assets like buildings, machinery, or patented systems. The

influence of organizational knowledge positioned as a competitive advantage (Davenport & Prusak, 2000; Leibowitz, 2008; Saint-Onge & Wallace, 2003) requires managers to organize highly complex environments with a need to reduce and control (Boisot, 1998, p. 6). The investments made to enable such reduction often focus primarily on managing what is known rather than creating anything new—a risk for any organization in a hyper competitive world (see Hagel, Seely-Brown, & Davison, 2010).

Set in the management tradition, theories and practices of organizational knowledge as constructionist and emergent have yet to effectively meet in most of corporate America. Instead, they are continually subordinated to the managerial instincts to control, which are supported by institutional structures—those best understood within a “form of thinking and an approach to life that is narrowly reductive and deeply analytical,” in other words, the dominate paradigm of Western and American corporate culture (Pink, 2006, p. 2). There is an instinct that it is critical to expand an organization’s knowledge with new content but an unwillingness to accept the unpredictability of what might emerge. Even within investments in “collaboration spaces” and “innovation sites,” the emphasis is on managed output and predictable results. It is a knot of interdependent needs rooted in historical management structures that are still adapting to the workplace of 2010 and beyond (Hagel, Brown, Davison, 2010; Pink, 2006.).

Knowledge Activation

The commitment to the efficiency of a transmission model is seen in industry statements like that of Spira (2005), who claims that the time spent searching for information is a cost to the organization because of lost productivity—people being distracted from doing what they should be doing because they are looking for a piece of information that is required for them to move

forward. This perception that searching activities, or knowledge accomplishing activities (as defined in Kuhn & Jackson, 2008), are wasted time—that they represent latency that should be driven out of the system—reflects some broad assumptions about organizational knowledge as an asset. It implies that knowledge can and should be gained quickly through deductive processes that are supported by referencing that which is already known—a classification that is created when something is digitized and stored in some way, without regard for the emergent properties of knowledge seen through the activity of seeking answers to problems, help for making decisions, or ways to make a contribution. The unpredictable *what happens next* that plays out in the latency created when people do not have what they need to move forward is considered a problematic instead of a valuable period in which emergence occurs.

Much work has been done on how organizational knowledge is developed and materialized into tangible or explicit assets (see for example Choo, 1998; Nonaka & Takeuchi, 1995), how it is transferred between people (Davenport & Prusak, 2000; McNichols, 2010), how communities build knowledge through practices of learning and communication (see Hansen, 2002; Lave & Wenger, 1991; Orlikowski, 2002; Wenger, 1998; Wenger & Snyder, 2000), the social dimensions of knowledge and its relationship to learning (Senge, 2006, p. 270), and on the power of networks for knowledge development and transfer (see Cross & Thomas, 2009; Monge & Contractor, 1999, 2003). These studies tend to assume the activation of particular knowledge sources rather than exploring the social and contextual conditions under which knowledge is constructed communicatively and continuously as workers establish a capacity to act. These studies provides a basis for seeing and understanding how organizational interactional expertise is developed in part through the use of defined knowledge assets.

Organizational Knowledge Transfer

The larger institutional discussion of knowledge management as a macro level organizational asset has been well vetted in management texts (see Davenport, Harris, DeLong, & Jacobson, (2001)) and the micro-level perspective of knowledge creation and transfer beyond the traditional transmission model has been covered in much of the organizational knowledge and learning literature (see Argyris, 1999; Choo, 1998; Nonaka, 1991; Senge, 2006). Lave and Wenger (1991) place knowledge as socially constructed in their situated learning environments. Brown and Duguid (1991) position the concept of learning as the “bridge between working and innovating” (p. 48), which gets closer to an activity based view, as learning might be seen in knowledge accomplishing processes. Orr’s (1996) work in exploring service technicians doing their work and the ways in which they position documentation and personal experience in problem solving provides perspective on selection of knowledge resources, demonstrates knowledge as socially constructed, and offers a view on shared learning experiences. In the case of Orr’s service technicians, their ability to communicate about how to solve problems demonstrated contributory expertise in the Collins and Evans (2007) vernacular. Extending this organizationally, it can be speculated that organizational expertise in problem solving for broken copiers was built through the dialog as well as it represented a collective understanding (Tsoukas & Vladimirou, 2001).

The idea of organizational knowledge has its roots in organizational learning, with an identifiable switch in the organizational literature being made in the late 1990s from a focus on the individual and organizational acquisition of knowledge through learning to “techniques and technologies of knowledge management” (Gherardi, 2006, p. 10). During this time, organizational knowledge became understood as an objectified resource and commoditized to

align with the ongoing development of a resource based view of the firm (RBV). RBV maintains that competitive advantage is best served by resources and capabilities that cannot be replicated outside of the firm (Wernerfelt, 1984, 1995). In this sense, *organizational knowledge* as an asset best refers to the base of authorized or identified stores and sources, as opposed to generalized knowledge of how to navigate the organization. Boisot's (1998) definition of knowledge as an asset aligns with this perspective, as does his discussion of the delta between knowledge transfer and knowledge absorption, which explores how an employee can best address questions and situations that occur through use of a knowledge source.

The Systemization of Knowledge

The shift from organizational learning to organizational knowledge was supported by the “view of knowledge managed as a stock of know-how” (Gherardi, 2006, p. 11) that created a strong alliance between knowledge management and information technology, where organizational learning had been more in the domain of training and human resources. In this same timeframe, Davenport and Prusak (2000, p. 17) created the connection between knowledge as a tangible asset and knowledge as a competitive advantage, further supporting the construct of knowledge as a manageable object that could be identified and measured. Reducing knowledge to an object became important as organizational measurement tools (e.g. balanced scorecards, dashboards, etc.) grew in popularity.

In addition to theoretical developments in management, the construct of organizational knowledge as an objectified asset has been supported by significant investment in the development and implementation of knowledge management systems (KMS). Between 2001 and 2005, estimates indicate that the global investment in KMS doubled to approximately \$8.8

billion, with an additional estimated \$148 billion in business applications centered on organizational knowledge sources (Malhotra, 2005). This level of investment has had the byproduct of developing sites for case studies on knowledge processes of creation, storage, and retrieval. Popular examples of organizational knowledge as an asset and a competitive advantage include WalMart's substantial investment in a KMS that creates "integrative knowledge... embodied in organizational mechanisms and routines... facilitated by information technology" (Heleat & Raubitschek, 2002, pg. 320). British Petroleum's extensive work in KMS combines systems and practices (Collison & Parcell, 2004) to create an environment in which multiple sources of sanctioned organizational knowledge provides a perspective on multi-channel knowledge management. Jones (2003) gives a good example of how a large financial services firm measures the value of its knowledge management through scorecards and reports.

In today's business environments, the existence of various KMSs used to house organizational knowledge is common, enough that in the early 2000s a new role was constructed in organizations to ensure the KMS and its contents were managed appropriately—the Chief Knowledge Officer (Bronti, 2001). In the workplace, theories of knowledge as an asset became aligned with managerial instincts that subscribe to an objective reality that can be managed. The unpredictability of the constructionist epistemology makes it unpalatable to the managerial desires for controlled, predictable results. There is not yet a role for a Chief Knowing Officer, or a Chief Knowledge Construction Officer. The role development of the official knowledge manager provides insight regarding how an objective view of organizational knowledge lends itself to reductionist tendencies. Collison and Parcell (2004) offer the following job description for an "ideal" knowledge manager:

Knowledge is universally accepted as one of <organisation name> assets, and like other assets, needs to be managed. The flow of knowledge into, within, and out of a business unit is a *process* which can be *optimized* through resourcing a knowledge manager as a full-time or part-time role. (italics added)

There is a parallel between the development of information and communication technologies (ICTs), business process re-design (BPR), and the creation of the assets known as organizational knowledge. ICTs and the CIOs who implemented them were successful in carving out the idea that systems and business processes are critical to the success of a modern organization. The BPR trend (Davenport & Short, 1990; Hammer, 1990) contributed to the perspective of documenting knowledge of how to do something and manage it as an asset. Rational systems approaches to consolidating information and passing data more effectively by reducing latency in moving information through the organizational structures has fundamentally changed the way business is done around the world. Improvements in ICTs have helped to fuel the popularity of business process management as a way of de-skilling workers and reducing complex tasks to simple, formalized flows and directions that can be easily communicated and repeated. Because they are “information systems,” KMS implementations have often been managed by the CIO organization, lending them to the systems approach that worked so well with ICTs. With that backdrop, it is easy to understand why knowledge management systems have been approached in similar fashion to the business process management work. In addition, BPR work is often seen as harvesting organizational knowledge and reducing it to easy to follow processes put into a manageable form. These efforts generally keep an eye towards process efficiency, reduced latency, and more information pushed faster and better through the organizational structure. Often the task of finding organizational knowledge is categorized as a business process, or as an embedded part of a business process. This approach tries to drive variability and latency out of the process flow and to dictate what knowledge sources are

activated for specific types of situations. This process focus has led to reinforcement of a key knowledge problematic as being the movement of knowledge through an organization, and a second as the need to identify and track knowledge.

Addressing these problematics has become a focus on the workplace, creating an asset-based perspective that has led to both investment and skepticism. As far back as 2000, more than half of American companies had adopted knowledge initiatives (Allee, 2000). In 2004, Fast Company published an article highlighting the importance of an executive level knowledge management position (CKO) to drive enterprise compliance and consistency (Thurow, 2004), while only a year later Lelic (2005) declared the “Death of a CKO,” explaining that regardless of title, knowledge management initiatives needed to “deliver... projects to satisfy particular business needs, and (ensure) coherence among projects in terms of solutions, which means organization (sic), methods and tools,” reflecting the strong affiliation management has with outputs and standardization across organizational context relative to assets. As Pollard (2006) explains,

It would make sense that KM would *facilitate* conversations, but if anything it has tried to *obsolesce* them—substituting context-poor databases that purportedly have the information you used to get from talking with people, more efficiently. Not surprisingly, this has rarely worked.

The drive to efficiency in creation and transfer together with the idea that people would follow a rote process in pursuing solutions or answers in a KMS has proven to be as ineffective as the BPR push of the 90s (Davenport, 1994; Hammer, 1998,). The idea of a sometimes messy, inefficient, incredibly powerful, and hard to control process that results in organizational knowledge is growing, creating an opportunity for integration with more emergent theories in the workplace.

This more recent managerial concern regarding the usefulness of highly prescriptive knowledge processes is not the first challenge that has been raised about the asset/object view of organizational knowledge. As cited in Gherardi (2006, p. 12), Kalling & Styhre (2003, p. 25) suggest the perspective that “knowledge is processual (sic) and fluid, while management is aimed at control and order”. Gherardi (2006) suggests that shifting to a focus on knowing, along with learning, is important because the action “takes place in the flow of experience, with or without our being aware of it” (p. 14). Organizational knowledge defined as an object is, on the other hand, static and apparent. Another shift is seen from Sveiby (1997), who originally made significant contributions to the idea of knowledge as a measurable wealth asset, and later clarified his “IT-Track” as focused on knowledge as an object and “People-Track,” which takes knowledge as a process (Sveiby, 2001). These developments are important in that they started to bridge the gap between theory and practice in knowledge management and to identify the growing gulf between IT “solutions” to knowledge management and people-centric approaches to knowledge generation.

In parallel to the development of technology systems for organizational knowledge, work has been done around the social dimensions of how organizational knowledge is created and reflected in various configurations of organizational participants. The work by Lave and Wenger (1991) on situated learning laid the groundwork for development in both learning and knowledge. Situated learning comes from environmental experiences that are unique to the organization. Context is important, as is connection with larger groups. Their ‘communities of practice’ theory initiated significant work in understanding how communities construct organizational knowledge and the importance of context. By the late 1990s, their work had been adopted by many for-profit corporations, and the idea of defined communities of practice tasked

with producing organizational knowledge became well understood by the early 2000s (Saint-Onge & Wallace, 2003, p. 6). This move from a discussion of situational learning to a concept of a community as a managed or manageable asset mirrors the systems moves described earlier regarding business processes (sites of embedded knowledge) and knowledge management.

Saint-Onge and Wallace (2003) also emphasize the difference in processes between accessing information and exchanging knowledge. With their focus on communities of practice, they emphasize the value of context, offering that “Communities play an essential role in providing opportunities to learn—not just to access information” by providing ways to contextualize information (p. 99), and position document repositories and intranets (common technology structures for “organizational knowledge” circa 2003) as mostly facilitating access to information (pp. 98-99). The power of communities to contextualize is reflected consistently throughout much of the organizational knowledge literature in the 2000s, and remains a focus. This perspective informs a framing of activation practices as being important within the larger understanding of knowledge within the communal context of an organization.

Questions of how knowledge manifests itself, how it is captured and counted, and how it is used later became interesting as the environments became more committed to technology supported KM. The view of knowledge as a competitive asset contributed to the development of models for identification, capture, and conversion of knowledge into something that could be managed. As early as 1991, Nonaka (1991) suggested that American companies struggle to conceptualize knowledge as subjective, that they focus too much on objective or “hard” aspects, where the company is the processing machine for creating, storing, and protecting knowledge. Nonaka and others have worked through a process driven perspective that attends to the tangible and intangible dimensions of knowledge. The SECI (Socialization, Externalization,

Combination, Internalization) model developed by Nonaka (1994) and further by Nonaka and Takeuchi (1995) is an example of a model that suggests how knowledge can move through a process from individual to organizational and back, from tacit to explicit and back, as well as defining a specific process for knowledge creation. It leaves open the question of how organizational knowledge exists outside of any individual frame and focuses on the acquisition and creation processes, similar to work done in organizational learning.

Other knowledge transfer processes have been proposed, especially in social dimensions. Brown and Duguid (2000) provide a perspective on the importance of context, community and communication in developing knowledge, particularly in designated learning environments. Their discussion of the classroom experience and the importance of resources that may not be obvious includes looking at the “collective construction of understanding” (p. 245) where activities like knowledge “stealing” among participants (p. 248) occur, where the thief then uses the context to create their own understanding. In this example, proximity becomes more important, as this type of transfer may not happen outside of a common physical environment.

Leonard and Swap (2005) suggest processes for extracting “deep smarts” from the organization through an extensive process of identification, classification, and documentation. “Deep smarts” contribute to an employee’s ability to make good decisions with the right people involved—knowing how to get to a satisfactory resolution. More recently, Liebowitz (2008) writes of “making cents out of knowledge management.” He outlines ways to capture knowledge from teams by providing incentive for members to write things down, or otherwise capture what they know in a digital format, making the assumption that people are capable of such documentation when they are properly compensated for the effort. In considering factors that influence inter-organizational knowledge transfer, Argote (1999) points to conditions of super-

ordinate relationships, geographic proximity, similarity, and quality of relationships as being important to successful transfer (pp. 168-170). Some of these types of conditions may be interesting to consider from the perspective of organizational interactional expertise practices, particularly within a larger practice based perspective.

Models that suggest an objective perspective on knowledge as created and transferred have led to additional work on processes through which organizational knowledge is captured, stored, and retrieved, either through systems or through social actions. Technology solutions to these processes have seen rapid development in the last 20 years. The development of knowledge management systems occurred in parallel to development in business process re-engineering (BPR). Business process documentation is often a part of what is stored in a KMS. This connection is important because the business logics for both KMS and BPR are similar—they create efficiencies so things happen faster. They also protect against any one person in the organization having too much closely held knowledge, so when someone leaves, it is less problematic to the organization as a whole. This attends to three fears in business today: (a) older workers retiring and leaving, (b) younger workers having a propensity to churn through employment, and (c) continual downsizing where people exit involuntarily. However, the comfort level provided by having large stores of documented knowledge and well defined processes for creating knowledge assets leaves unattended the question of how workers understand the use of those assets. Risks still remain when workers who know how and when to activate certain sources leave, particularly as we have changed our market economy to services rather than manufactured products. The steady application of rational and systems thinking about the work environment and drive to efficiency has led to a steady deskilling of American workers (Spender, 2008, p. 162), but organizational knowledge has eluded clear management efficiency,

in part because workers still maintain a degree of agency with regards to choosing what they use as an external knowledge source when solving problems, making decisions, or making a contribution. Other structural problems can be seen in the research on organizational learning. For example, Argyris (1999) cites research that shows that “knowledge transfer between affiliated organizations is greater than transfer between independent organizations” (p. 159), and yet, organizational knowledge systems and processes are often developed and maintained by groups that are independent of the people most likely to use them.

Systems and Expertise

Within systems and processes, early work done in the use of information sources provides a framework for further exploring organizational interactional expertise in current environments, considering that expertise is demonstrated through a command of a subject area. O'Reilly (1982) conducted research on how decision makers chose between four defined information sources to make decisions. Factors like accessibility, experience, and perception of accuracy/quality were tested in the study, together with perceived uncertainty and complexity of the task as corollary factors. In O'Reilly's study, accessibility was determined to be the most important factor. Whether accessibility has a similar impact on organizational fluency in the ICT supported environments of today's workplace is an open question. More recent work on information seeking focuses on the selection of social interactions to solve problems, examining the relational dimensions including the strength of relationships, physical proximity, network factors, cost, awareness of another person's expertise, and history (Borgatti & Cross, 2003, pp. 435).

From a social network perspective, a perception of expertise among organizational members is a possible factor in knowledge practices. This expertise may be attributed to an individual or a system—the so called “source of record” in many environments. Collins and Evans (2007) provide a perspective on the tensions created when expertise is claimed or granted to individuals. This can be seen enacted in business through the organizational policy that dictates who can create knowledge assets, where they are stored, how they are accessed, and how they are used. Both individuals and systems are given official attributions as experts, and the degree to which workers use them in that capacity is an indication of whether they are accepted broadly in a way consistent with how they are narrowly defined. Activation practices are a way to see if workers are accessing knowledge in ways that are consistent with official “expert” designations, or choosing other sources and thereby granting an implied expertise. Workers who either need something or want to contribute something co-create the asset through those actions, but their understanding of others as experts, or their own designation as an expert may influence activation practices.

In addition to knowledge claims, Collins and Evans (2007) present an argument for developing interactional expertise—that in which domain language expertise works to break down the dualism of tacit/informal versus formal/propositional. As they explain, interactional expertise is “found in the middle ground between practical activity and books, computers, and so forth ... nearer the informal than ... the formal view” (p. 28). Interactional expertise is “accomplished, crucially, by engaging in conversation with the experts” (p. 32) and by using an expertise in the language of the domain rather than the practice of the domain. This type of expertise informs both the idea of knowledge as an asset by providing pieces of the framework, and the methodology needed to “find” organizational knowledge within a site. It is, as Collins

and Evans (2007) observe, an under-researched area, as it considers the ability to fluently converse in a domain without having actual competency and/or first-hand experience within that domain. This categorization of expertise provides a launching point from which to consider how activation practices emerge through fluency rather than competency.

Work Practices as Informative

As a practice based study that is embedded in organizational activities, this study responds to calls to connect studies of work practices with the work that is actually done in organizations (for example, Barley, 1996; Brown & Duguid, 1991). More recent suggestions specifically around knowledge push towards methods that allow for examination of practices—“the way in which work gets done and... knowledge is created” (Brown & Duguid, 2001, p. 200) in the workplace and the ways in which practice theories interrelate (see Osterlund & Carlile, 2004). Spender (2008) specifically calls out the need for an objective of “theorizing that is useful to managers dwelling deeply in their organizations” (p. 166), and Kuhn and Jackson (2008) propose a methodology for framing knowledge accomplishing activities as people seek to respond to problematic situations at work. These types of studies provide a basis for focusing on a specific dimension of what might be more broadly considered knowledge accomplishing activities—the practices of activation that show how the conditions of the moment and context create certain practices outside of defined processes that drive the managerial assumptions of process compliance.

In studying how Kappa develops a collective competency to act, Orlikowski (2002) identified five practices that continually recur situationally enacting those competencies: “sharing identity, interacting face to face, aligning effort, learning by doing, and supporting participation” (Orlikowski, 2002, p. 267). This type of practice based research is used in this

research as well to build a perspective on the actions taken in day-to-day work by the consultants who are working with clients to frame problems productively. Orlikowski's approach to examining practices and the activities that support them informs the analysis approach used here.

The focus on activation practices supports a move in thinking from “the organization as an apparatus for exploiting its specialized knowledge—for which knowledge collection and movement is crucial—towards a theory of the organization as an apparatus for managing the creation of knowledge.” (Spender, 2008). It is intended to be attentive to the way people react to knowledge needs that compel activation practices and by extension, how those practices contribute, often in unexpected ways with unexpected results, to a continual reshaping the body of knowledge that is officially recognized in an organization. As the object of organizational knowledge becomes more engrained in the workplace, understanding the conditions that drive activation practices become increasingly important. It is through activation that assets are developed or left to decompose—assets that are not used or kept current don't last as organizational knowledge assets. This type of dependency may be a point of integration that can be explored as more is understood about the activation practices and how they materialize. Another possible integration point might be an understanding of how activation practices emerge in ways that bound the assets used and create limitations around what and how assets are developed.

In Summary

While acknowledging the managerial agenda regarding knowledge management and the desire to objectify a knowledge asset in many of today's organizations, this research takes a social constructionist position regarding knowledge (Berger & Luckmann, 1966) as its foundation for examining activation practices. From this foundation, the goal of this research is

to further our understanding about how to integrate constructionist perspectives on organizational knowledge with the *in situ* desire to systematize and regulate assets.

Organizational knowledge has become objectified through the systemization of artifacts and networks, with supporting processes and practices. This research will extend the boundaries of organizational knowledge to include contributions that come before the current processes are enacted. This is done with an eye towards creating a balance between emergent dimensions of organizational knowledge and systematized asset definitions. It is not intended to suggest that activation processes should be systematized or mandated. Allowing for conditions of the moment to guide activation processes rather than assuming process compliance may provide interesting insight regarding what attributes are important for organizational knowledge assets.

Organizational knowledge systems and practices have had significant attention in particular over the last 20 to 25 years by researchers in organizational communication, organizational learning, and management theory. Significant work has been done in exploring the idea of *organizational knowledge as an object*, constructed through the attention given to it, and the *processes* through which knowledge is created, stored, retrieved, and transferred through various approaches, both technological and social. Others have either delved into how knowledge management *systems* have developed and been used in the workplace, or how knowledge *processes* have become better understood, recognized, and fostered in the workplace.

In communication and knowledge practice theory, a more emergent constructionist perspective of knowledge in organizations has developed. Case studies have been offered of environments where the combination of processes, systems, and practices exists are explored. In the more traditional management theory space, there is a base of literature that discusses how organizational knowledge is recognized and valued as a *competitive asset*, and how it can be

controlled and measured as such. Some work has also been done in the area of *information seeking*, which gives a basis for a framework of what workers look for when they need information. Work in *expertise* provides the foundation for considering organizational interactional expertise within the context of organizational knowledge. All of these streams of research provide important foundational components in the definition of organizational knowledge and give context for knowledge accomplishing activities. These literatures build a better understanding of knowledge practices in which organizational fluency is demonstrated. At the same time, they provide a basis for integration of practice theory with the managerial definition of knowledge as an asset.

This research takes a participant-action research approach, appropriate for a practice-focused study of a work environment. Argyris, Putnam, and Smith (1985) noted that researchers tend to “consider their problems solved and their tasks complete long before considering the practitioner’s problem of how to understand and act in real-life contexts amidst all the complexity and multiple dilemmas of value they pose” (p. 191). We have made great strides in developing a more nuanced understanding of organizational knowledge as a constructed object that is socially embedded. That understanding is proving difficult to translate into work environments largely dominated by traditional reductionist tendencies. A reframing of the question to consider more closely the work practices in which organizational knowledge is enacted opens the opportunity to investigate the identified gap in our understanding of practices that point to organizational interactional expertise, and through that, to the knowledge accomplishing practices that are used to establish expertise.

Finding evidence of organizational interactional expertise within the communicative practices of a group requires observation of work practices and an understanding of how people

within the group understand and talk about how they engage in those work practices. This is combined with input from people who are in a position to determine how organizational interactional expertise has been established, even if it is not specifically called “interactional expertise” within their language. Chapter 3 provides a discussion of the methods used for this research.

CHAPTER 3

METHODS, SITE, AND DATA

This research examines the intersection between knowledge accomplishing activities and the way in which organizational interactional expertise is evidenced. The results established a basis for integration of constructionist theories of organizational knowledge with business environments that are heavily informed by management theory in a way that is meaningful in application and that extends our theoretical understanding. Specifically, this research posed questions about how expertise is demonstrated organizationally, drawing a link between expertise and knowledge that provides a way to consider systematized knowledge assets and emergent knowledge practices within a knowledge/expertise construct. The following research questions were posed:

R1: How might interactional expertise be evidenced organizationally?

R1.A How do knowledge accomplishing activities relate to organizational interactional expertise?

Addressing these questions required establishing a data set that could be analyzed and established to be evidence of organizational interactional expertise. In developing their case for interactional expertise, Collins and Evans (2007) used a modified Turing test to establish that individuals with fluency in a domain could “pass” for experts even though they lacked contributory (or hands-on) expertise in that domain. According to Collins and Evans, individual fluency at this level is supported by traditional study and learning, but is obtained only through dialog, a deeply social command of the domain language that can replicate that of a contributory expert even without the direct experience of a contributory expert (p. 27). This type of individual

is said to have interactional expertise. Collins and Evans make it clear that while interactional expertise has the potential to be about an individual's ability to deceive others; Collins and Evans' interests are in investigating and establishing how people without specific scientific domain expertise can help with problem solving and contribute to the scientific community in effective ways. Likewise, this research looked to understand the business work practices through which organizations construct expertise by enacting knowledge accomplishing activities to collectively address situations about which there may be lack of specific domain expertise.

Creating a version of a Turing test is prohibitive in a live business environment, where creating an experiment in which an organization intentionally attempts to deceive or convince an evaluator of something that could be construed as untrue would be problematic. However, there are situations in knowledge based firms in particular where it is possible to explore through the normal course of business ways in which organizational interactional expertise might manifest or come into play. In particular, in the advisory services/management consulting industry, organizations routinely offer to or are asked to provide advisory services regarding situations where they do not necessarily have first-hand experience with the specific business scenario, the industry, or the work being done. Rather, it is anticipated that the collective organizational knowledge and experience provides something valuable to problem solving efforts. Management consulting companies are required to establish for a client their ability to solve problems, address business situations, or otherwise lend expertise to a particular need regardless of their first-hand knowledge of the situation—they must be fluent in the business of the client without necessarily having *in situ* experience with the client's business. This development of fluency points to organizational interactional expertise. The practices used to develop this fluency for particular situations are a way to understand how knowledge activation activities relate to the establishment

of organizational interactional expertise. As such, the research methods employed techniques developed for organizational observation and practice based research.

There is a definable *moment in practice* that highlights whether or not consultants have been successful in demonstrating fluency or interactional expertise and bringing it to play in establishing an ability to solve a problem or contributing to a business decision. This period occurs when a client has posed a problem to solve or the consultants have identified a potential area for engagement. The practices that follow and the extensive conversation that takes place both internally and between clients and the consultants provide a way to gather data about how consultants work together to construct a fluency around the client environment.

Within this common work situation there are *conditions of the moment* in which organizational interactive expertise can be evidenced. In these scenarios, the “proof point” is not suggested to be winning the work, but rather that the client accepts the participation of the consultants in conversation about the problem being addressed². Many factors come into play regarding the results of a proposal or a deliverable, and so the outcome is not considered within this analysis as a determinate of success at constructing organizational interactional expertise³. Regardless of outcome, watching discursive moves that take place both in internal discussions between the consultants and in their interactions with clients provides the data to identify common practices used to establish expertise.

These moments in practice raise practical questions regarding how to gather data that point to organizational interactional expertise. As a communicative phenomenon that is deeply embedded in everyday work routines, it requires a research framework that allows for data

² As with the example from Collins and Evans of a former Vice President of the United States contributing to the conversation of global climate change, it is less important if others agree or disagree with his position, and more important that they agree he has a place in the conversation as a non-scientist who is fluent in the topic.

³ The possibility of a correlation between successfully establishing organizational interactional expertise and proposal wins might be an interesting point for future research but is not an objective of this research.

collection that is attentive to what happens discursively when the collective is challenged to develop a level of fluency around a problem. Looking to the existing application, Collins and Evans (2007) describe interactional expertise as the ability to effectively communicate about a topic without having “hands-on” experience or qualifications. Organizationally, this materializes through the internal and external communication work that is done in the particular moments in which expertise is brought into play to solve for a problematic situation.

To capture these work practices, I refer to the framework established by Kuhn and Jackson (2008) to study and understand knowledge accomplishing activities through a practice based approach. Kuhn and Jackson (2008) draw on Orr’s (1996) focus on “practical insights that enable action” (p. 456). Similarly, organizational interactional expertise is about engaging in problem solving or business decision activities. The knowledge accomplishing framework defined by Kuhn and Jackson (2008) allows for variables within situations such that communicative practices and outcomes can be seen and understood.

The framework suggests three resources that are used to define problematic moments: identity, legitimacy, accountability (Kuhn & Jackson, 2008, p. 458). These resources drive high and low levels of determinacy within a given moment or set of conditions. Likewise, I suggest that the application of these resources together with a view of levels of determinacy contributes to how organizational interactional expertise is demonstrated and understood. Kuhn and Jackson (2008) suggest that knowledge-accomplishing activities are discursive moves that occur within problematic episodes and are driven by levels of determinacy, as created by the resources of identity, legitimacy, and accountability. These discursive moves may also be important to the establishment of organizational interactional expertise as seen from the perspective of an observer. Whether or not expertise is established is a separate question from whether or not

knowledge accomplishing activities have been engaged, however the framework allows for different questions to be asked and answered effectively, and as such was the basis for this research approach.

In alignment with this approach, this research developed episodes for study, and used specific proposal based episodes that occurred over time and involved a series of communicative events and moves to understand the ways in which problems were framed and how both the consultants and the client communicatively and pragmatically completed knowledge accomplishing activities that pointed to interactive expertise on the part of the consultants. Kuhn and Jackson (2008) define episodes as having a beginning and an end, arising from a problematic situation, and displaying the continuous nature of system structuring using a series of discursive moves that apply or generate knowledge in an attempt to realize a capacity to act (p. 461). Episodes for this study followed these guidelines to track the interaction between consultants and clients over time through observation, document gathering, and interviews.

As a qualitative study requiring episodic data on how organizations seek to represent knowledge/expertise internally and externally, this study takes an ethnographic approach. While on the surface this may be through the use of knowledge management systems, networks, or other assets, this study looked to go further by understanding within an episode how deeply communicative/discursive moves were used to establish organizational interactional expertise. Consistent with Denzin and Lincoln (1998, pp. 206-207), an ontological commitment to a relativist perspective allowed for a strong commitment to knowledge as socially constructed, and seen within the interactions that become visible through qualitative approaches. This commitment supported the study's focus on how expertise is constructed to provide consultants

with a “place at the table” in solving problems that may or may not be areas of contributory expertise.

This commitment also supports knowledge as deeply social phenomena in spite of the managerial instincts to systematize it. As such, an ethnographic approach is appropriate in that it allows for an experience in which “the field researcher sees first-hand and up close how people grapple with uncertainty and confusion, how meaning emerges through talk and collective action, and how understandings and interpretations change over time” (Emerson, Fretz, & Shaw, 1995, p. 4). When a client reaches out for help with a business problem, it is often a moment of uncertainty for both the clients and the consultants, and the ways in which they jointly create meaning and move to a point where they can engage productively in conversations about how to solve for problems is highly communicative in nature. The knowledge accomplishing framework provided by Kuhn and Jackson (2008) provides a way to see these activities as more than just action within the work day, but rather purposeful activities that enact knowledge meaningfully.

Methods and Data Overview

The research questions posed here require a set of data that richly describes the process of establishing a voice in the solving of a problem with which an organization may or may not have direct experience. They depend on participant observation of actions taken over time, as recorded by someone deeply embedded in the context and in the moments in which interactional expertise might be demonstrated. However, because knowledge work is often not immediately visible, there is a similar dependency on accounts of activities as told by workers reflecting on work practices used to prepare for meetings about problematic situations. Asking direct questions about interactional expertise was expected to be counter-productive because it is not a defined or understood construct within the targeted sites. Methods and data collection rather allowed for

storytelling, accounts, and broad input to sift through and look for evidence of interactional expertise. In addition, informed observers who had more background and understanding of the study were used to help vet data collection and analysis and to confirm observations and context.

A variety of data sources were used to create an understanding of the environments and work contexts where organizational interactional expertise materializes. These sources included participant observation, interviews, and document review, which together provided a way to collect and analyze pertinent data and validate findings. While critical to the ethnographic method and to the practice commitment, participant observation introduces the question of subjective versus objective data collection and analysis (Schultze, 2000, p. 8), and the inclusion of interviews and document review is important to provide for broader perspective.

Participant observation focused on episodes in which site participants are either actively working through how to establish organizational expertise by developing proposals or deliverables that effectively communicated the organization's "place at the table." Participant observation included noting the routine use of language and communication modes to establish an ability to respond to client requests. Interviews were used to gather input from consultants regarding their experiences in developing a response to a client request. Interviews provided a basis for understanding by gathering narratives of how workers talk about knowledge accomplishing activities, listening for ways in which organizational interactional expertise might be indicated. Document review was further used to contextualize and confirm formal process expectations and to understand how the officially designated knowledge assets were brought into play.

The research questions specifically looked for ways in which knowledge accomplishing activities could be seen as a means of building organizational expertise as it flows through

people, systems, and groups. Within the data collected, I looked for episodes of knowledge accomplishing activities associated with proposal work. Consistent with the approach suggested by Kuhn and Jackson (2008), I created episodes from the data. I tracked episodes through to the point at which there was a logical conclusion to the activity, which often spread over several days or weeks. Episodes were validated through informal conversation with participants and input from informed observers about the conditions and the context of the episode.

Episodes provided defined experiences in time when organizational interactional expertise may be demonstrated, allowing for examination of the conditions of the moment that created or supported certain practices within the organizational flow of knowledge. The analysis links episodes over time as appropriate and looks for common themes and conditions through the episodes that proposed a framework for understanding how knowledge accomplishing activities that support organizational interactional expertise form a part of the larger set of organizational knowledge assets.

Participant Observer Considerations

With ethnography, there are considerations of reflexivity as the process associated with the participant observer's self-awareness. Doing research in the field requires a mindfulness regarding the ways in which the researcher notices what is happening, creating the potential for a methodological constraint in doing this type of research. Given this consideration, in taking notes and observing, I attempted to intentionally acknowledge and step away from my own emotions, judgments, or critiques of how situations unfolded and to think about them from a researcher's perspective. I worked to maintain this balance throughout the data collection period and in the analysis.

As a participant observer I tracked field notes for this research. Initially the field notes were broad descriptions of the observed flow of conversation through the organization, but as the research progressed and categories and coding opportunities grew, they became more specific around certain types of episodes or events. As Silverman (2006, pp. 93-98) cautions, coding in field notes was done cautiously to protect the emergent nature of the study, so outside of a focus on the research questions posed, field notes remained somewhat broad throughout.

However, some early organization was helpful in analysis. Given the complex nature of the sites and the work being observed, episodes were rarely confined to a specific point in time—they were “spatially and temporally distributed,” a challenge in practice noted by Kuhn and Jackson (2008) as well as by Orlikowski (2002, p. 253). Tracking and documenting episodes over approximately a 12-week period allowed for a variety of situations, circumstances, and conditions to be included in the data set and considered in the analysis.

An initial framework for structuring field notes to help organize the day-to-day note taking is included in Appendix A. This outline provided a consistent way of cataloging and tracking observations in an organized fashion without putting undue constraints around the initial collection. Later organizing around conditions and environmental concerns helped to identify knowledge accomplishing activities that occurred throughout the days.

Consistent with Herr and Anderson’s (2005) reference to Habermas (1971) and his perspective on objectivity, this research had primarily a practical interest in generating an understanding of the phenomena of knowledge in organizations (p. 27). As practitioner research, this study took into account the action research agenda and concerns. For the purposes of this study, I defined practitioner/action research as

is inquiry that is done *by* or *with* insiders to an organization or community, but never *to* or *on* them. It is a reflective process, but is different from isolated, spontaneous reflection in that it is deliberately and systematically undertaken... (Herr & Anderson, 2005, p. 3)

The intention to reflect carefully did not remove the issue of objectivity, but helped address validity concerns. In addition, triangulation through interviews and document review added context for interpretation. Consistent with Silverman's (2006) caution about triangulation, it was used here as "an assembly of reminders about the situated character of action" (p. 292) rather than as a way to "adjudicate between accounts" (p. 292).

Narrative Interview Considerations

Interviews designed to encourage accounts of proposal experiences were used to gather data. These accounts were open ended narrative interviews that allowed the participant to talk through examples and to think through their perspectives on what happened in the course of doing their work. Each interviewee was asked to come prepared to talk about three recent sales cycles, and to "tell the story" of those experiences. Informed consent was obtained prior to the interviews

Answering the research questions was supported by observed and recounted accounts of knowledge accomplishing activities. These practices may not have been readily apparent to workers, and may have been embedded in their actions in a way that was difficult to pinpoint. Narrative interviews allowed for responses to open questions about when and how a worker had pursued organizational knowledge and provided data that were used to understand the ways in which knowledge accomplishing activities were enacted and how they tied to a constructionist perspective of organizational knowledge.

Within narrative interviews, I leveraged the grounded theory tradition of Glaser and Strauss (1967), leaning more towards the Glaser development of inductive and emergent

research styles. I used the narrative approach as suggested by Czarniawska-Joerges (2004, 2007) to encourage stories that provided examples or insight regarding knowledge accomplishment and the establishment of organizational interactional expertise. Narrative is uniquely suited to provide data in the form of personal and organizational accounts that can help researchers hear and understand themes that are potentially difficult for individuals to articulate in response to specific questions, and to give people the opportunity to tell a story rather than to report a fact. My research questions were based on what people perceived as their practices, which may not have been readily apparent to them. Stories provided a way into the periphery of perception, and gave a wider perspective on the activation practices people work through when deciding where to go for answers.

The interview format was a guided interaction (Lindlof & Taylor, 2004, p. 195), and did not tightly define the conversation. This is consistent with Lindlof and Taylor's (2004) approach to ethnographic interviews, which calls for developing rapport, finding common interests, and establishing a trusted and comfortable space for interaction (pp. 176-183). Using less prescriptive interviews, my goal was an exploration of the ways in which participants describe their experiences with various knowledge assets both formal and informal and how they talked about activating some form of knowledge asset, with guides around describing conditions of the moment, environmental concerns, experiences, and perceptions that resulted in organizational practices. The interview guide is provided in Appendix B.

Lindlof and Taylor (2004) point out successful narrative interviews require that the researcher have a relationship with the participants, and that it is "not unusual for the researcher to study colleagues, friends, acquaintances, or relatives" (p. 181). As a participant researcher, I had relationships with the workers being interviewed, and sufficient organizational background

to contextualize the stories. I used the informed observers to guard against over-contextualizing or embedding my own concerns, beliefs, and prejudices in the data analysis process.

Interviews were conducted in person where possible, and were largely recorded for later transcription and analysis, although three interviews were not recorded for technical reasons. Mindful of Poland's cautions about common problems with recordings and transcriptions (Poland, 2001, p. 638), interviews were mostly conducted in a private, quiet space and recorded on a high quality digital recorder. Transcriptions were created to a level useful for understand the content of what was said, but not to the level of conversational analysis or details of how things were said.

Document Review Considerations

The third category of data points used for this research was document review. Document review included proposal and deliverable output associated with episodes, meeting minutes, and e-mails. Additionally, any documented processes, training, or workflows for these activities contributed to the data set. Documentation reflected in particular the managerial commitments to tangible, process driven instances of knowledge as a managed asset. The ways in which these documents were brought into play as consultants worked to establish expertise with a client was particularly interesting.

Documentation included process flows for adding to or using systems or other knowledge repositories, definitions of knowledge networks and participant roles within those networks, e-mails between workers asking for help, and public statements regarding the position of organizational knowledge as an asset. Public statements included mission statements, employee recruiting messages, and other generally available comments on knowledge as an asset. Documents also included requests to knowledge groups, comments on knowledge systems, and

other correspondence as it related to organizational knowledge as an object. As data points for this study, documentation represented a way of contextualizing and understanding organizational knowledge within the official framework.

Consistent with Lindlof and Taylor (2002), documents were used in this study to better interpret what was noted in interviews, to help understand the flow of events and processes, and to understand the “rules” of the organization (p. 117). This contextualization supported developing the categorization and coding of interview and field-note data that were used to respond to the research questions.

Informed Observer Discussions

Two people were engaged as “informed observers” to contribute to the data collection process. These two individuals were asked to validate observations and notes in order to cross-check participant researcher perspectives. This perspective was helpful on several occasions to get a clearer understanding of what was being observed, and to test assumptions about what consultants were doing to respond to situations. These discussions were informal and noted but not recorded or transcribed.

Site Introduction

For the purposes of responding to the research questions, site considerations included finding an organization where knowledge is an accepted construct and where it is routinely called into action throughout normal work practices to allow for consistent opportunities to observe knowledge accomplishing activities. Responding to the research questions required a site where organizational knowledge is defined as an asset and that has workers who understand and use those assets in combination with official and unofficial organizational knowledge sources. In

considering sites, I looked for an environment that provided an observable data set for responding to the research questions and that would be suitable for the proposed methods. The site also needed to have workers who regularly enact a variety of knowledge accomplishing activities—enough to provide a robust data set for analysis.

The primary site for this research was the Denver office of the Delta Consulting Company (a pseudonym), both its physical presence in Denver, Colorado and its virtual presence rendered in a variety of forms. Field notes extended naturally to client sites as the normal course of work events in consulting requires frequent movement between physical locations, and meetings were held on site as needed. Delta Consulting is a management consulting company, and as such sells the services of its staff, identified as “knowledge workers” or “experts” in their fields. Consultancies are by definition organizations with systems and processes related to knowledge and openly refer to knowledge and expertise as assets. Typically they have invested significantly in a knowledge infrastructure. They share post-bureaucratic characteristics that are common to the industry, including a relatively flat organizational structure, loose affiliations and hierarchies, high participation in internal decision making, and a high degree of autonomy in career development (Heckscher & Donnellon, 1994). These tendencies make both official and unofficial knowledge flows diverse and multi-directional, and emphasize the importance of applied knowledge or expertise to deliver on services sold.

Delta Consulting is based in Atlanta, Georgia, and has offices around the world, including 19 within the United States. Some ancillary observations and informal discussions were conducted with individuals from the San Francisco, California, office and in the Sydney, Australia, office; however, the Denver office team and activity constituted the majority of the data. In addition to in-office activity, observations of client interactions were conducted through

participant research, as I was easily included in many discussions with clients as a part of the normal business processes being enacted. Journal notes detailed these interactions and provided data regarding how the consultants work to create an understood problem definition. The main data set is built from these notes, consultant interviews, observations, and document reviews.

The Denver office does have a physical location. However, typical of many organizations today, work does not take place exclusively within the physical boundaries of the office or within any particular client building or structure. The space is a common configuration of offices, two conference rooms (one large, one small), and cubicles. The virtual environment includes conference calls, instant messaging, e-mail, video conferencing, and other geographically dispersed interactions that occur routinely within the course of business. Interviews were primarily held in the Denver office, although two were external to accommodate participant locations.

Work hours are dispersed throughout a day and week, rarely conforming to the traditional 8 to 5, Monday through Friday schedule. There is a high degree of autonomy amongst the consultants in this office regarding when and where they work. When at a client site the consultants are expected to conform to client standards of hours, dress code, and work presentation, however, conformance is rarely checked by management unless the client raises a concern, which has not occurred in recent memory. There were approximately 27 people in the Denver office although that number fluctuated over the three month observation period.

As a consulting company, organizational knowledge is considered a primary asset for this site, and the workers are considered “knowledge workers” in the most traditional sense (Drucker, 1957, 1988). The company employs staff who are strongly knowledge based, selling both their individual experience and the company’s collective organizational knowledge to clients who

have specific types of problems to solve. Consultants have virtual access to an extensive “knowledge base” referred to as iKnow2. iKnow2 is a database populated with artifacts including previous project deliverables, contracts, sales presentations, industry documentation, articles published both internally and externally, and other documentation associated with projects and sales processes.

Research Site Access

It requires a deeply embedded participant observer to fully access the sporadic and variable location and timing of conversations and to have access to the physical knowledge base, as they occur in the natural environment. As a member of the Denver office, I had full access to the formal space, the online space, all artifact repositories, and most client sites. Within the site, all office members were made aware of my role as a researcher and the kind of observations I would be conducting. The local office lead provided authorization for the observations, and individuals who agreed to be interviewed signed consent forms prior to participating. Clients who were in meetings where I was observing were informally made aware of my tandem role as a participant and a researcher, with a goal of both informing and not unduly pressuring the normal course of business practices.

As a participant researcher, I had access to the sites and a contextualized understanding of their structures, habits, and patterns of behavior. The Denver office had systems and processes related to knowledge and openly refer to knowledge as an asset. The leaders of the company have invested significantly in a knowledge infrastructure. As a consultancy, Delta Consulting demonstrates post-bureaucratic characteristics that are common to the industry, including a relatively flat organizational structure, loose affiliations and hierarchies, high participation in

internal decision making, and a high degree of autonomy in career development (Heckscher & Donnellon, 1994). These tendencies make both official and unofficial knowledge flows diverse and multi-directional.

Participants and Data Protection

The gathering of observations and documentation was approved by the local office lead. In addition, all members of the office were made generally aware of the research work and observations. Individuals were solicited to participate in interviews. A requirement of the research approval was that documents be obtained within the constraints of confidentiality agreements and that when specific examples were used for reporting purposes that they be edited where necessary to remove specific references to individuals or companies.

Guided interview participant selection was purposeful and intended to cover a specific group of individuals who meet a certain criteria, in line with a “theoretical construct sample” (Lindlof & Taylor, 2002, p. 126). Specifically, the individuals interviewed demonstrated the following attributes:

1. Work within the targeted work groups as identified by the site manager.
2. Have recently worked on a proposal or a client deliverable.
3. Have routine work reasons for activating knowledge assets as a part of their day-to-day work experiences.

The sample size for guided interviews was targeted at ten; in total nine were conducted, all with generally similar work experiences and environments. This number represented approximately 30% of the staff. An e-mail invitation to targeted participants was sent, requesting that they respond directly to me if they were willing to participate in the study. In the e-mail, the

study was explained in further detail, together with related IRB information. It was not anticipated that this study would create any undue risk for participants. Their interviews have been treated as confidential and not directly attributed to individuals outside of data analysis requirements. Participants were not part of a vulnerable demographic, and the topics were generally non-threatening. Interviews generally lasted an hour, and were frequently recorded. Data from observations and interviews were stored on a secured password protected computer. Once the dissertation is complete, data were removed from the computer. Names of individuals and companies were changed in distributed reports, with the cross reference maintained in a secure file. Throughout this dissertation, pseudonyms are used for all participants noted by name.

Documents were gathered and stored in a similarly secure environment. They were obtained through the insider status of the researcher with appropriate approvals from management, and maintained where necessary as confidential to the organization. Documents were cataloged and tracked for organizational purposes to support analysis.

Limitations of the Methods and the Data

This research required observation of work practices that may evidence the construction of interactional expertise within a management consulting firm. There were limitations introduced relative to the methods of the research that included concerns regarding practice based research, namely that definitions of knowledge and knowing as distinct from action are vague, that practice based studies can be overly simplistic (Kuhn & Jackson, 2008, pp. 456-457). The framework proposed by Kuhn and Jackson and applied here to analyze knowledge accomplishing practices was designed to attend to these challenges by attending to situated responses to problematic situations at a “micro” level (p. 457).

Additional limitations were acknowledged, and I was mindful of them in the analysis and conclusions drawn.

1. It is difficult to produce work that can be generalized and re-engaged in different settings from this type of research. There is also a tendency to reflect findings back into the research site rather than extending theoretical development outside of the site (Herr & Anderson, p. 84). These two concerns existed relative to this study as well, however, this was considered a starting point for understanding the phenomena of organizational interactional expertise and attempting an integration of theoretical positions. The outcomes of this research have provided a basis for a broader research agenda that explores similar issues in other types of organizations.
2. It is in the best interest of a management consulting company to convince clients of its ability to deliver in areas where it does not have contributory expertise. As such, the establishment of interactional expertise may be considered self-serving. However, it could also be considered as “raising the bar” for what it means to have more than “beer mat knowledge” (Collins & Evans, 2007) and not contributory expertise. Regardless, the objective of the research was not to promote or condemn management consulting practices, but only to understand if embedded knowledge practices can be understood to demonstrate the construct of organizational interactional expertise.
3. As a participant observer, the primary investigator was a member of the organization and of its internal networks, which were the basis for much of the communication that took place. As with any ethnographically based research, it was the responsibility of the primary investigator to purposefully question data and observations. Additionally, input from other informed observers provided a crosscheck for analysis.

CHAPTER 4

DATA SUMMARY

The formal data collection for this research extended over 12 weeks, from April of 2011 to June of 2011. Some additional observations and reviews were conducted in July of 2011 to provide complete episodes in certain cases, and to allow for “informed reviewer” discussion as the data review and analysis was being conducted. In total this resulted in 43 days of participant observation, nine interviews with Delta Consulting employees, and 26 client-site observations of meetings/interactions with clients (12 in person meetings and 14 phone calls). Discussions with informed observers, artifact reviews, and process reviews provided additional data for analysis.

The data collected addressed the research questions by providing an in-depth view into the day-to-day work practices of Delta Consulting employees. Through this view, the data followed as the consultants accessed and applied various knowledge assets and worked together to discursively construct a level of fluency for a targeted client environment and problem set. The knowledge accomplishing activities used to develop interactional expertise became visible as the consultants moved through establishing a place in conversation with those clients as they worked to frame and solve problem. By providing a basis for constructing episodes in which knowledge accomplishing activities are seen being used by the consultants to create a level of capability in conversation with clients the data serve the purpose of responding to the questions at hand.

The data provided a way to understand how knowledge accomplishing activities relate to organizational interactional expertise by establishing a collective set of tangible and communicative devices. These tangible and communicative devices needed to construct a collective capacity to act as an expert in conversations with clients about needs they have. The

data indicate ways in which consultants make discursive efforts to build identity, legitimacy, and accountability; to move themselves and clients from low to high determinacy; and to create a fluency that supports a “place at the table” in conversation.

Data Collection – Overview

Similar to Alvesson and Robertson (2006) in their observations of how consultancies construct elite identities across an entire firm rather than within individuals, this research is designed to provide data that allow for observation of how expertise is constructed, communicated, enacted, and recognized by organizational, rather than by an individual. Leveraging the Collins and Evans (2007) model of expertise, the data collected were used to establish signifiers that indicate organizational expertise and/or are used to establish claims of expertise through knowledge accomplishing activities. To narrow the focus across a broad potential set of interactions, these data elements primarily look at how knowledge accomplishing activities that support interactional expertise are enacted during a defined type of client interaction—the early stages of a discussion about a topic in which the client has some interest in additional input/ conversation/problem solving.

General Data Collection Processes

Unlike call center or help desk type interactions, which tend to be time boxed and location specific, organization to organization connections for complex relationship processes in consulting take place sporadically, unpredictably, and in various channels and locations. Because of this, these types of sites require the research to have time within an organization to observe and to be available to participate in both scheduled and impromptu meetings and conversations as they occur in the natural environment. During the three month timeframe, meetings occurred

in person, on the phone, via video, and through instant messaging. Conversations also took place through e-mail on a regular basis. Each of these repositories of naturally occurring discourse provided the opportunity to observe how a relationship was developing between organizations and how markers of expertise were being brought into consideration by the consultants. In particular, the Delta Consulting on-site discussions of how to engage the clients provided color and life to the idea of how Delta Consulting collectively builds the discursive ability to approach the client discussions through their internal knowledge accomplishing practices.

Throughout the data collection period, extensive notes were taken day-to-day regarding observed interactions. Informal questions were posed to participants to validate their responses. Formal interviews were used to ask people to reflect on and talk through experiences they had in various circumstances. Some people discussed current efforts, others historical circumstances but representative of their experiences. Interviews were transcribed at a content level, but not at a conversation analysis level. In addition, e-mails and artifacts related to specific interactions were collected and cataloged as they became available. The combined sets of data were then coded into a general association by client/episode.

Data Summary

Data collection focused on how to access and observe consultants defining and responding to problematic situations, with attention to how they framed and reframed situations as they worked through how to talk with clients about their needs. The spatial and temporal dispersion of events that lead to problem definition in the environment resulted in participant observation over time being the primary way in which data were collected.

As an organizational member with unrestricted access to the environment, I was able to observe discursive moves that supported knowledge accomplishing activities and the construction of expertise both in the moment and over time. Interviews asking people to reflect on their experiences provided additional input to the data set, as did informed observer discussions with two individuals who were well grounded in the goals of the research, and who agreed to act as informed observers throughout the data collection and during analysis. A breakdown of the total data set collected is as follows:

Table 1. *Data Set Summary*

Type	Measurement	Explicit Data Content
Participant Observation	43 days	<ul style="list-style-type: none"> • Field Notes
Interviews	9 individuals	<ul style="list-style-type: none"> • 7 hours of video • 8 pages of additional notes • Transcriptions of key points at a content level
Artifacts	72 artifacts	<ul style="list-style-type: none"> • PowerPoint Presentations • Word Documents • Emails • Includes meeting minutes, email conversations, standard and custom presentations
Client meetings – in person	12 meetings	<ul style="list-style-type: none"> • Meeting notes
Client meetings – phone	14 calls	<ul style="list-style-type: none"> • Meeting notes / field notes
Process Reviews	1 established sales process	<ul style="list-style-type: none"> • Written and verbal descriptions of methodologies, approaches, and ways of presenting Delta Consulting.
Informed Observer discussions	2 individuals ~6 hours of discussion	<ul style="list-style-type: none"> • Notes from discussions
Formal internal meetings	32 tracked	<ul style="list-style-type: none"> • Meeting minutes, e-mail follow up

The data supported the creation of ten “episodes” of organization interaction specifically focused on establishing organizational expertise during the early phases of a client defining a need. Each took place through various types of connection and discussion over the three months. Episodes were not predetermined and tracked; rather they emerged throughout the data collection period and were constructed out of an initial data review, as discussed in more detail in the analysis section.

In addition to the episodes that were constructed, there were opportunities to observe knowledge accomplishing activities specifically related to constructing expertise in other settings. For example:

Table 2. *Additional Activities Observed*

Additional Activities	Description
Network Meetings	Delta Consulting has several “networks” that have formal meetings both on the phone and in person. During the data collection period, the Denver office hosted members from six other offices for a one day discussion of change management resources, with a stated goal of “getting the experts together” for a variety of objectives.
Other pursuits	During the interviews, several people walked through stories of pursuits or experiences that did not tie directly to an episode. These additional experiences provide rich context and examples of communicative moves, knowledge accomplishing activities, and how expertise is constructed outside of any particular observed episode.
Wednesday Operations Calls	A weekly Wednesday morning call is held to discuss achievements, sales opportunities, staffing, and recognition of contributions that also provided useful context and insight.

These additional data sources were used to support the analysis and to provide additional perspective as outcomes were determined. Further discussion of the analysis approach follows in the next chapter.

Data Variety

The full data set covered a variety of interactions, situations, clients, and Delta Consulting staff. This variety provided an opportunity in analysis to consider the ways in which interactional expertise is developed in different settings and with different people involved. Of the 10 episodes constructed in the early analysis phase, several key points were identified that indicated some of the variances between the episodes that contributed to a diverse data set.



Figure 2. Types of Episode Variables

Generally, the data were diverse enough to provide both contrasts and consistencies in organizational practices.

General Data Observations

In an initial pass through the data, there were areas that stood out to me, sometimes simply as noteworthy but not necessarily unexpected and other times as surprising. As a deeply embedded participant observer, these areas included vocabularies or assumptions that were very much taken for granted in the work practices. Seeing them in the data gave me a fresh perspective on how we use them and what we are doing with them in day-to-day activities.

In particular, the following four areas were general data observations that provided additional dimension and thought regarding the environment because of the way in which they shaped some of the episodes.

- Credentialing
- Deconstructing expertise
- Debating “generalist” and “specialist” / the term POC (plain old consultant)
- Client framing of request for outside expertise

Credentialing

Credentials are “meta-criteria” in the Collin and Evans (2007) periodic table of expertise (pp. 14-15). Along with experience and track record (“quals” in consulting vernacular), credentialing is viewed as an accessible way for outsiders to assess expertise. However, within the data collected at Delta Consulting, the use of credentials to establish expertise with clients had only very limited use in practice, especially in highly indeterminate situations. This is of interest because the defined knowledge management approach within Delta Consulting focuses heavily on certifications, training, and other types of credentialing. Based on document review, there were stated goals for attainment of certifications across the staff (“targeting 70% of

consultants having their PMP⁴ by next year”). In reviewing the episodes, credentials of individuals or of Delta Consulting come up only in instances where an RFP (Request for Proposal) was issued, as demonstrated in these two examples:

- One RFP asked for the number of certified project managers (PMP certified) people were on staff.
- Two RFPs asked for change management certified resources (PROSCI⁵ certification).

In the rest of the episodes, more informal credentials were used to establish organizational qualifications. For example, Delta Consulting has won several awards including “Best Place to Work,” and has ranked very high on awards in the industry for client service and delivery. These external validations are regularly included in slide decks that introduce Delta Consulting to a potential customer, and were referenced in client meetings, but they are rarely referenced in client interactions or in preparatory discussions within the teams.

To see how credentials were used as a way of understanding the use of meta-criteria in the Collins and Evans model (2007, p. 16), I mapped the episodes to the use of credentials, based on perceived determinacy at the outset of the episode. Where an episode started with low determinacy, it is mapped on the bottom half of the figure, high determinacy to the top. Episodes with high use of credentials are to the right, limited use of credentials to the left. Each episode was plotted against these two dimensions, showing that the meta-criteria are not commonly used by the consultants in material they prepare or in conversation with clients. The credentials to determinacy map are shown in Figure 3, with the letters corresponding to clients/episodes:

⁴ PMP is a Project Management Professional certification awarded by the Project Management Institute (PMI)

⁵ PROSCI is a copyright for a change management methodology in which individuals can be certified



Figure 3. Determinacy and Credentialling

As a consultancy, Delta Consulting places high internal value on credentials, investing money in certifications for staff and directing efforts towards company credentials as well as affiliations with organizations who authorize credentials. However, externally Delta Consulting does very little to invoke their credentials with clients, and clients seem to not have a high level of interest in them either, outside of the RFP processes that were observed. In a follow up question with an informed observer regarding credentials, he offered the thought that they are considered “table stakes”—to even get to a conversation you have to have them, even if they are not used very often. So they provide “background noise” (his term) to the front line communication that takes place. Similar to Collins and Evans description of this category, meta-criteria seem to be tactical in application, and not used extensively in establishing interactional expertise. As a participant in the environment, the application of credentials has been unproblematic to me. As an observer it highlighted the gap between where organizational resources go to acquire meta-criteria and how people develop fluency and expertise.

In describing her experience with responding to an RFP for a client that required certain credentials, one consultant offered the following:

the actual putting together of the response included you know you have to have the GSA⁶, MOBIS⁷, we have the MOBIS schedule which is our government approved rate schedule.... and we had to show qualifications that work from other organizations both public and private...

This level of specificity is unique to this episode, and it the only clear example of an emphasis on credentials individually or organizationally.

Deconstructing Expertise

It was surprising to me in retrospect to see that in one episode there were specific moves to deconstruct expertise in a particular area. In general, consulting companies are selling expertise of some sort, so looking back in the data and seeing a clear example where expertise was being downplayed was counter-intuitive. Delta Consulting knew the client well, and had done extensive work for them in the past. Conversations about how to make sure the client could “see us as something more that ... more than just really good at ... they need to know we are different than what they’ve seen so far, or they won’t even ask us to have the conversation...” occurred several times as the consultants worked to establish Delta Consulting as capable of delivering in a different area. In this case, having an association with high contributory expertise in a particular competency proved problematic for establishing interactional expertise in another area.

⁶ GSA is a General Services Administration contract that is used by the Federal government to regulate contracts

⁷ MOBIS* is a government pricing schedule. Having GSA and MOBIS in place is a way of credentialing in government contracting

Debates over “Generalist” versus “Specialist” and POCs

The deconstruction of previously established expertise often went hand in hand with debates over whether to present Delta Consulting staff as being *generalists* or *specialists*. The generalist image has value because the consultancy is not “pigeonholed” (Robert, FN.051211) in a way that limits a full representation of the variety of capabilities of the staff at large. At the same time, there is a perception that *specialists* are tangibly worth more—they have a higher bill rate, and are therefore more valuable. However, there is a consistent impression that clients want *generalists* and do not want to pay for *specialists* as a rule. This comes from observations of many internal meetings, and is not validated by client data. However, the pervasiveness of the discussion took me by surprise as I reviewed the data over the three month period. As a long time participant, I realized when I took a step back to view the data that I too have been caught up in those conversations many times, without really stopping to “unpack” the terms and fully understand what was being debated. The issue has a place in this research because the term *specialist* is often used synonymously with *expert*.

Along with the debate over generalist/specialist was the use of the term POC, or *plain old consultant*⁸. The term has always been unproblematic, even uninteresting to me. However, as I reviewed my notes and considered the conversations I had observed, it seems that the term POC has implications for expertise.

The question “do they really just want a POC?” came up in several meetings, particularly in episodes with low determinacy. A POC is seen as someone without a specific expertise, but who has strong analytical skills and good project skills. A POC would be expected to come into a

⁸ The term POC is a play on an old telephony term “POTS,” which stands for Plain Old Telephony Service. Many consultancies grew significantly in the 1980s and 1990s in parallel with growth in the telecommunication field in the United States, and adoption of some of their language is common in the industry.

vague situation and “figure it out” (James FN.062811). It is a term that seems associated with expertise, and also one that is problematic in the environment.

Through e-mail, I asked one of my informed observers to define *POC*, and he responded:

Someone that knows project management and that can develop and manage a project plan and team, facilitate a group through designing or improving a process, and be able to help an org more effectively adopt and accept transformational change.

A second informed observer provided the following definition:

I would say someone who is a professional consultant with broad skills in multiple of the following areas: process improvement, change management, project management, facilitation, assessments of client situation and solution development (many different types), and is able to synthesis complex situations and able (*sic*) previous learnings in a dynamic environment.

In reviewing other conversations about the term, I realized that there was a tension in that some people will say “I don’t want to be *just* a POC,” because it implies a lack of expertise, where others are very comfortable with the label because they like being perceived as capable of doing many things. They construct their versatility and analytical skills as an expertise. In the episodes with low determinacy where POC is mentioned, it seems to be a form of contributory expertise in and of itself to be able to apply strong analytical skills to make the situation clearer and to manage a team through a long term effort to solve a problem. It appears that the consultants are conflicted over the relative value and importance of being an “expert” or being a really good POC.

Client Requests

Two examples of the way in which clients framed the initial contact emerged from the initial data review. First, in the client documents supporting two of the RFPs, there was no

mention of the word “expert,” and yet in discussing responses to the RFPs, the consultants routinely worked together to construct language and presentation that would indicate expertise. When the need was defined in an RFP, the client tended to focus on the problem definition rather than on the capacity needed to solve the problem, but the consultants tended to focus on establishing a capacity to act. In both situations, the oral presentations later in the process reframed the discussion on the capacity to solve and the expertise of the consultants in the presentations.

Second, in four episodes, clients specifically referenced the desire for external perspective that was undiluted by specific knowledge of their environments, framing what Collins and Evans (2007) would refer to as “primary expertise” (p. 14) regarding their business as a negative. In the following examples, taken from notes generated post-meeting, the clients refer to wanting someone who specifically does not have ‘hands on’ experience with their business.

Table 3. *Client Commentary on External Perspectives*

Actor	Description
AAA, Debbie	What we really need is someone who doesn't know us, who isn't trapped in our models. I want someone who doesn't know all the dirty laundry, doesn't know the people, who can just come in and look at what we are doing and give a different perspective. I don't need someone who can produce more (<i>client product name</i>), I need someone who can just talk through the problem with me.
BBB, Paul	We need someone who knows our business but doesn't know us. I'm not sure you know our business, and for sure you don't know us. That might be enough, who knows?
DDD, Susan	We aren't really sure what we need. We need someone who can help us with changing, not someone who knows our systems in detail.
FFF, Laura	I'm really looking forward to getting someone in here who isn't stuck in how we do things. Someone who can really give us a fresh take on things.

Data Coding

For the purposes of analysis, an initial pass was made to help make sense of the data, followed by three primary coding passes that were developed to filter progressively through the data. The coding approaches were designed to assist in identifying interesting elements of the data and making sense of the volume of information.

Initial Data Pass

The initial data pass was a full read through of the field notes from start to end as an entire corpus of data. This offered the opportunity to start to see and feel the activity that had occurred over the three months, and to consider what might be a good way to start to organize and structure what was available. This pass through provided enough of a sense of the data to feel that there were episodes that could be constructed and used for further analysis. It also made clear that there was additional contributing material outside of the construct of an episode that could be informative. As a result, I decided it would be worthwhile to do an initial coding for signifiers and discursive moves across the data set, prior to moving to episode creation and analysis. This would create the opportunity to understand how signifiers and discursive moves were used in the episodes, in addition to how they were applied more broadly.

Table 4 reflects three coding passes that were built after the initial data pass.

Table 4. *Coding Explanations*

Coding	Explanation
Coding 1	The first coding helped to identify and establish signifiers, interesting dialectic moves, and other common references for expert or expertise throughout the data. It was not confined to episodes, and was able to provide insight regarding how the consultants were attempting to represent expertise in the system. This insight was useful both to start to <i>see</i> points at which knowledge

	accomplishing activities related to expertise might be happening, and to create pointers to episodes.
Coding 2	The second coding was used to build the episodes that form a foundation for the analysis. The episodes help to make sense of the data by providing activities over time related to a particular problem or reason to act.
Coding 3	The third coding was used to look specifically at the episodes that had been constructed to identify knowledge accomplishing activities that occurred throughout each episode in ways that contributed to the construction of organizational interactional expertise.

Coding 1 – Signifiers and Discursive Moves

In the first coding, I looked across all the data for common signifiers used by the consultants together with discursive moves that were used to indicate identity, legitimacy, and accountability within a problem that had been presented, in particular with an eye to how they were used to identify and control for determinacy. These points also highlight the practices used by the consultants to understand the appropriate language to use to connect with a particular client and problem set.

Examples of signifiers include specific use of the words “expert”, “experience”, or “experts,” or the industry vernacular of a SME⁹ resource (subject matter expert). Substitutes for these words include “professionals,” “industry players,” “knowledgeable resources,” people with “know-how,” a “been there done that” person, and a “pro.” Common signifiers found throughout the episodes are shown in Table 5.

Table 5. *Common Signifiers*

Signifier
Expert / Experienced
Pro / Professional
SME
Industry player
Knowledgeable resources

⁹ SME in common speech patterns is normally pronounced as a word rather than spelled out as an acronym

Know-how
 A been there done that person
 Leading thinker
 Someone who can talk the talk

Discursive moves include how questions are posed, the way in which storytelling is incorporated, when and how artifacts are brought into play, how experiences are leveraged in conversation, and when and how qualifications or references are applied. These types of moves are often an attempt to create a “capacity to act” (Kuhn & Jackson, 2008, p. 461) in a way that effectively frames and addresses the problem at hand, through the ability of the consulting organization to be fluent in the possible solutions, approaches, or ways to define the need.

In the following example, Dave describes using a SME to help talk with a client with highly indeterminate needs. This particular client description was not a part of a specific episode, but was an experience on which Dave reflected in his interview, as part of the larger data set.

so I got.... a call going with Kyle, James, just to say here's what's going on... we strategized about how to talk with (*client*), and we got it pulled together. James had done something similar, so had Kyle, you know he's really a SME in this area. So that helped. We didn't know exactly what Client X needed, but I felt like we had the right people going in talking about it (Dave, 060911.58)

The work done to be prepared to move in different directions depending on how the conversation goes contributes to the perception of fluency. In later coding, looking for these types of moves throughout episodes contributed to understanding how the consultants work to construct expertise as they learn more about the client situation. Dave is describing an intentional move on the part of the consultants to learn how to interact, “how to talk” with the client, and the use of a SME to demonstrate that Delta Consulting has a place in the conversation. Talking specifically about how to talk to the client was a common part of internal

discussions between the consultants as they prepared for client-facing meetings. In field notes from 22 internal discussions (both formal and informal) and in 14 e-mails, there were references to specific efforts to learn about or agree on how to talk with the clients.

Coding 2 – Constructing Episodes

This coding pass shaped the data into episodes, within which I looked for associations, themes, or moves that were made as the episode developed. Primarily I looked for how the problem definition was constructed within the consultants' conversations and later between the organizations, and indications of interactional expertise being to take shape. As these episodes became clearer, a tie to the attributes of identification, legitimacy, and accountability was pursued in a later pass through the data, looking for discursive moves that indicated work being done to establish these characteristics between the organizations. While previous work has examined the ways in which individuals within an organization align across these dimensions in various situations, this research has the added complexity of organization to organization interplay. Specifically, the ways in which the consultants' interactional expertise is constructed throughout the episode is of interest. The discursive moves in the interactions work to increase determinacy, establish credibility, and create a capacity to act together with the client. The mutual framing and reframing of the problem to solve was an ongoing tension throughout most of the episodes.

Ten episodes were extracted and pieced together as various interactions related to them were noted and tracked. Episodes were extracted by reviewing field notes, participant observations, interviews, and artifacts and looking for sequences that consistently applied to a storyline around a problematic situation being raised, worked through with the consultants and

the clients, and taken to an endpoint. Data were coded by company identifier and then collected into a complete set associated with a particular episode. To code for episodes, I took the approach to look for “common themes, metaphors, plotlines, and so on to identify general themes or concepts.” (Clandinin, 2007, p. xv). Using the emergent coding and categorization approach described by Lindlof and Taylor (2004, pp. 218-222) and consistent with grounded theory, I organized the data to create themes and to identify commonalities between the described experiences.

Specifically, throughout the field notes, interviews, and artifacts, discrete episodes were identified that met the following criteria, consistent with the approach taken by Kuhn and Jackson (2008, p. 461):

1. Has a start and an end.
2. Arises from a problematic situation.
3. Displays the continuous nature of system structuring.

In addition, a fourth criteria was added: Has enough interactions/discussions to support meaningful analysis.

Episodes were built over an extended period of time, and only emerged as the data were reviewed, not during the collection process. Challenges to constructing episodes included:

- Spontaneous and informal nature of conversations
- Length of time over which events can happen
- Not always a “resolution based” end point
- Limited access to client side observation
- Difficult to anticipate an episode emerging during data collection

Episodes in the Environment

As the data were collected, episodes began to emerge in the normal course of business practices. It is perhaps useful to have an understanding of the environment and the typical practices that occur to connect with the episodes described. In a call center, a person calls (or sometimes texts) in a problem and discusses it with a representative who has hopefully been trained to handle the type of call coming in. In business consulting, the presentations of the problems are rarely so streamlined.

In this research, an episode was defined as a series of interactions between the consulting company and a client or target client that has a basis in a problematic situation where there is a perceived need to take action. The interactions may take place over several days, weeks, or months. The point at which a proposal of some sort is being developed was selected represents a point in time when a client has a problematic situation to resolve. It was in many ways the environmental equivalent to a call center taking a call from a customer with a problem to solve.

These problematic situations become evident or were presented by the client to the consulting company in a variety of ways. A “Request for Proposal” (RFP) is a formal request for the consulting company to assist with problem solving. A less formal but structured request for conversation/discussion to co-construct a problem statement and possible actions to take to address the situation is often the way an episode starts. On occasion, the situation arises over the course of several informal conversations to explore opportunities to work together based entirely on a relationship or general need, without a specific request on the part of the client.

Generally, the types of requests shown in Table 6 were reflected in the episodes included in this analysis.

Table 6. *Episode Starting Points*

Request Type	Description
Request for Proposal (RFP)	When an RFP is issued, generally the client independently establishes a written definition of their need and the problem set they are working to solve. They then send the RFP to potential vendors, who provide a written response to the requirements that have been defined. The client reviews the written responses and may invite a select group of vendors to a process known as “orals.” In orals, the vendor presents the targeted team to deliver the work and answers questions about approach, culture, style, and expectations. From there, a vendor may be selected to move forward (occasionally a “short list” is selected to move forward).
General Client Request	A less formal process than an RFP, a client will call a consulting company or set of companies to talk about a particular area or problem with which they feel they need help. Generally they call people they have worked with before, or through references.
Consultant Identified Opportunity	Within an existing relationship, or based on industry knowledge, a consulting company may approach a potential client to talk about a particular problem or known industry challenge
Relationship Discussion	Someone makes a connection regarding either work the consulting company has done previously or a need the client organization has.
Work Extension	A need is identified either as a result of or in conjunction with current work the consultancy is doing with the client.

Within the commercial sector, a general client request is perhaps the most common way that the potential for work is identified. However, this channel has varying levels of specificity—ranging from *I don't know what we need but we need help* to *I saw the work you did (there) and need that exact thing here* to *we need something very specific*.

Within the public sector, much of the work is identified via the RFP process and is highly driven by procurement rules and regulations. The data set for this study contains examples of several different types of identification processes and includes both public and private sector examples.

From the point of an initial request through a series of meetings and exchanges to a final conclusion of the client deciding on a direction, many business practices and interactions occur over an extended period of time. It is not unusual for a single “episode” based on this definition

to span weeks or months. It is also common for the end point of an episode to be inconclusive, in that the client may or may not make a decision to move forward with any kind of work relative to the problem defined. This research is not focused on predicting or manipulating the outcome, but only on examining the practices enacted as the cycle unfolds, particularly as the consulting company works to communicatively establish expertise. As such, the outcome is less emphasized other than the way in which it punctuates the episode as a defined end point.

Interaction that constructs episodes throughout these extended periods of time occur in both face to face interaction between colleagues internally within the consulting organization, and between the consulting organization and the client. In addition, dialog takes place between the consultants and the clients via e-mail and on the phone, and through chats. In a commercial setting, it is not unusual to set up “working sessions” where the consultant and the client jointly construct the problem definition. The practices within these types of interactions are examined in more detail to understand how they are used to both build a common understanding and to establish expertise.

Coding for Episodes

Step 1. I first thought through my initial data pass to note the client interactions that felt the most robust over the course of the data collection timeframe. This resulted in 13 identified potential episodes.

Step 2. From this list, I then searched through the field notes for references to each company, noting where conversations had occurred, and what the topic/content was.

- Step 3. From that more data driven list, I evaluated the 13 potential episodes to establish a beginning, and end, and the quality of data available in terms of conversations, documents, and other artifacts.
- Step 4. Three of the initially identified episodes did not have the robustness of the other ten in terms of data. Either as an observer I had not had access to many of the interactions around the particular client, and/or in interviews or meetings they did not come up with enough detail to build out additional analysis. These three were put aside.
- Step 5. For the remaining 10, I gathered the relevant data, including meeting minutes, field notes, documents, and interview notes where they were referenced, and created a folder for each episode.
- Step 6. As a final step in this coding, I went through each episode and assigned a level of initial determinacy, to indicate how clear the client was in the initial presentation of the problem. I used a simple “high, medium, low” categorization. High indicated that the requirements were documented and formally presented (usually an RFP), medium they were verbalized but not formalized, and low if requirements were not well understood.
- Step 7. I then used the information in each folder for further analysis in the subsequent coding passes.

Episodes Constructed

Table 7 reflects the episodes that were constructed out of this coding pass. Each episode and corresponding client is identified with a coded letter which serves as an identifier and a client pseudonym.

Table 7. *Episodes Inventory*

ID	Client	Description	Initial Determinacy
1	AAA	Client AAA is a mid-sized private firm that had gone through almost two dozen acquisitions in about three years. Client called Delta Consulting directly to initiate discussion between the CHRO, CMO, and staff together with Delta Consulting regarding how to reorganize the marketing functions in the organization. Expressed a very low understanding of how a consultant could help, but wanted to talk about it and see how outside assistance could provide solutions.	Low
2	BBB	Client BBB is a mid-sized private firm in the specialty medical device industry. Conversations with senior level executives started through an existing relationship. The client was unsure of what was needed from consultants, but willing to have a conversation. Throughout the data collection period, several meetings were held with the client to understand their current situation and the help they wanted.	Low
3	CCC	Client CCC is a mid-size private firm that manufactures electronic components. Consultants did initial introductions, presented to a group of 3 clients, established the relationship, and defined a formal need. There was a very low level of determinacy in the beginning of the relationship.	Low
4	DDD	Client DDD is a large private aerospace company that was launching a significant new software package internally. They were requesting assistance with change management work globally to get people using the new system correctly. They issued an RFP to several local consulting companies to get assistance in managing this large and complex change.	High
5	EEE	Client EEE is a mid-sized credit union who requested assistance with organizational design work related to a significant restructuring and changing regulatory requirements for collections and lending. Needed assistance in thinking about 'innovative new structures' that are industry leading and also appropriate for the changing workforce. Wanted someone to guide the conversation and bring in new ideas. Knew Delta Consulting prior to initiating conversations.	High
6	FFF	Client FFF is a large federal agency responsible for providing care to veterans of US military service. They issued an RFP for help with an organizational redesign in their fee processing areas.	High
8	GGG	Client GGG is a large HMO regionally based in the Denver area. They have an existing relationship with Delta Consulting, as several consultants are working with them on different projects. A client asked them to help with change management related to an ongoing program, however, she was unsure of exactly what could be done.	Medium
9	HHH	Client HHH is a small State of Colorado agency who was in need of assistance in project managing the build out of a new museum in downtown Denver. They were looking specifically for project management, and issued an RFP through the State procurement system for support. Delta Consulting responded to the RFP.	High
11	III	Client III is a small telecommunication service provider who was introduced to Delta Consulting by an employee connected an executive with the client. He asked Delta Consulting to discuss a specific need they had in resolving conflict between three groups, one in Dublin, Ireland, one in Sri Lanka, and one in San Mateo, California. While the request had some specifics regarding the problem, the desired solution was very unclear and required extensive discussion to frame.	Low
12	JJJ	Client JJJ was pro bono work requested by the board member of a small non-profit who provides a museum in the Denver area. The Board member familiar with Delta Consulting. Client staff were unsure regarding how Delta consultants could help, had a series of discussions to come up with a clear deliverable, then moved forward.	Low

ID	Client	Description	Initial Determinacy
1	KKK	Client KKK is a bank in bankruptcy, looking for assistance in reorganizing to come out. Removed because there was very limited data, and the interaction ended abruptly with the acquisition of the bank's assets by another company – no real end point or resolution.	
2	LLL	Client LLL asked the consultancy to provide assistance to the client in selecting a vendor for a technology migration. Removed because there was limited access.	
3	MMM	Client MMM requested that consultancy support requirements definition for a new system. Removed because of limited data.	

I also mapped the episodes back to common moves throughout the conversations to see how different techniques were used during the episode, and in particular how it related to how the problem initially presented itself. This helped me to see if the way in which the client originally presented the problem had an impact on how the consultants responded. As noted in the data review, one interesting output of this mapping was the limited use of formal credentials (accreditations, certificates, etc.) in episodes that did not include an RFP.

Table 8. *Mapping Initial Contacts to Common Moves*

	Informal Contact	Formal Contact	RFP	Expert / Experienced	SME	Been there / done that	Other (pro, player, etc.)	Provide Collateral	References / Previous Clients	Stories of similar experiences	Frame works	Reference credentials	Reference industry position	Brain-storming	Joint Problem Defintion	Reference previous relationship
AAA		X		X	X	X	X	X	X	X	X			X		
BBB	X	X		X	X	X	X	X	X	X	X		X	X	X	X
CCC		X			X	X	X	X		X	X			X	X	
DDD			X	X	X	X	X	X	X	X	X	X	X	X	X	
EEE	X				X					X			X			X
FFF			X			X		X	X	X	X	X	X			X
GGG	X			X	X	X	X		X	X			X		X	X
HHH	X		X	X	X			X	X	X	X	X	X			
III	X				X			X					X	X	X	
JJJ	X			X		X	X			X	X			X	X	X

Coding 3 – Practices, Knowledge Accomplishing Activities, and Organizational Interactive Expertise

The third coding pass looked at the identified episodes for specific practices that occur consistently between them in ways that support the construction of a capacity to act. These practices pointed to organizational interactional expertise as defined as the collective capability of an organization to apply complex knowledge development practices (Kuhn & Jackson, 2008, p. 460) in ways that support fluency in discussing problematic situations that are outside of the members' direct (contributory) expertise. In considering the practices seen, I looked for moves that demonstrated identification, accountability, and legitimacy being established (Kuhn & Jackson, 2008, p. 458), and for ways in which consultants worked to build fluency, or a comfort level, with the anticipated client environment that allowed them to integrate easily into conversation as an interactional expert.

Consistent with Kuhn and Jackson's (2008) approach to practice based research, once the episodes were created and the data elements were grouped, this third coding pass established discursive moves that aligned with broad practice themes:

1. Community based interactive framing of problems.
2. The dynamic and provisional nature of knowing.
3. Moves that pragmatically accomplish knowledge.

Coding for Knowledge Accomplishing Activities

- Step 1. Based on the ten episodes that were constructed in the second coding pass, I began by reading through each set of data as it related to a particular episode, and organizing the episode to see how moves happened over time, creating a summary of each as I went.
- Step 2. In building out the episode summaries, I noted key activities that seemed to be recurring throughout the episodes. I looked closely for activities that I might otherwise have taken for granted in my day-to-day participation in the work environment, tracking through the episodes to determine how the consultants were managing this wide variety of requests and situations.
- Step 3. As I began to gather activities and see patterns in the data, I started to think through the practices that were being enacted as the consultants worked towards coming to a common understanding of the client situation and preparing for discussions with the client.
- Step 4. Within the practices that were being enacted, I cataloged activities that seemed to be moves towards establishing a collective identity, legitimacy, and accountability that pointed towards knowledge accomplishment.
- Step 5. From there, I worked through the episodes to understand and catalog how fluency in the expected environment was developed through dialog and how it was recognized, both in the internal moves the consultants made to establish a degree of fluency and in the external interactions with clients and their responses.

The coding provided an identifiable set of three core practices that were routinely used by the consultants to construct a degree of fluency with the client situation to allow for a successful dialog while also working towards increasing determinacy.

Kuhn and Jackson (2008, p. 459) provide four knowledge accomplishing activities that are used in generating a capacity to act, 1) Deployment => Transmission, 2) Deployment => Information request, 3) Development => Instruction, 4) Development => Improvisation. Of these four, the two related to Deployment are less common, which may be indicative of the relative complexity of the environment. The two related to Development are seen more frequently in the practices identified through this research, but it is Improvisation that is the most prevalent in the various episodes. Kuhn and Jackson (2008) make the point that community members may establish a “system well equipped to efficiently handle relatively routine occurrences” (p. 465), and the practices highlighted in Table 9 are in response to complex, but fairly routine occurrences of the consultants being asked to respond to a problematic situation where the scope of the problem set is often the most unpredictable part of the situation.

Understanding this complexity is useful in connecting with the knowledge accomplishing framework and understanding how it can be applied to complex environments. In this study site, the interactions almost always appeared too complex for transmission to be used as a response even in situations with higher levels of determinacy. At a minimum, we see an information request being handled, most particularly in the case where an RFP response is requested and conversation is minimized. However, even in the case of an RFP there is often iteration with the client to clarify and validate the request, and if the original information request is satisfactory, moving into a second step of the more complex communication scenario of oral presentations. Most frequently, I saw informal instruction or learning happening amongst the consultants as

they prepare for meetings, and improvisation happening as client interaction took place. The client interaction was often highly unpredictable, and an ability to navigate improvisational conversation threads in helping the client to clarify the problem to be solved was often required. As such, the ability to nimbly responding in creative ways to client requests was a part of establishing the desired ease of language use, as well as establishing identity, legitimacy, and accountability. With this in mind, I looked for practices that were routinely enacted in the work the consultants did related to the episodes defined.

It became apparent during coding that there was a need to divide practices that occurred during episodes into *internal* and *client facing* discussions. Internally, the consultants made moves over time to increase their understanding of the problem and to strategize over how to handle interactions with the client. This work often included both formal and informal learning by team members, as well as trial runs with the language and messaging, where the consultants would try out different scenarios in an effort to create a collective understanding of the problem. Client interaction points within the episodes provided observation and input regarding how the consultants responded to client input, and how the clients responded to the consultants communicative actions¹⁰.

Specifically, three practices were commonly observed across the episodes, as shown in Table 9.

¹⁰ Of the 10 episodes, I had the opportunity to directly participate in meetings with seven of the clients either in person or on the phone. For the other three, I relied on interviews and document review to understand details of the client interactions.

Table 9. *Practices of Organizational Interactional Expertise*

Practice	Knowledge Accomplishing Activities	Construction of Organizational Interactional Expertise
Discussing and researching internally	Identifying participants	Knowing similar situations, clients, and problems, building identity, legitimacy, accountability
	Using formal knowledge assets in formal and informal ways	
	Developing language skills / Rehearsing	
Interacting directly with the client	Asking context appropriate questions	Speaking fluently about the client situation and creating connection
	Storytelling / Sharing experiences	
Evaluating and Iterating	Debriefing internally and discussing the client interaction	Demonstrating a revised understanding/ definition of the problem and improved fluency
	Iterating with the Client	

These three practices and the associated activities were common across episodes in the data, and provide a way of framing the ways in which consultants' co-construct expertise in response to problematic situations.

Overall Data Assessment

In general, the data set provided a robust set of episodes for further analysis. There was variety in the types of situations encountered, but enough consistency to draw lines between them. The episodes were sometimes messy and hard to follow, but familiarity with the setting helped in creating some structure. The sheer quantity of data proved challenging to manage, but once it was organized there was an ability to focus on the questions at hand. As discussed, there were areas where I felt surprised or simply more aware of conversations that I might otherwise have taken for granted in the day-to-day work experience. Taking an intentional step away and thinking about what was happening from the perspective of constructing organizational interactional expertise caused me to question some of the normal language habits and patterns, and to find interesting moves that were made throughout the process of preparing for client interactions, as well as during those interactions. Coding multiple times for different things provided an opportunity to view the data from different perspectives, contributing to more robust analysis and conclusions.

CHAPTER 5

ANALYSIS

During the data coding and through the methods used to analyze the data, a set of three practices with seven associated knowledge accomplishing activities were identified. These practices support the ongoing development and enactment of organizational interactional expertise as a collective capability to apply complex knowledge development in ways that support fluency in discussing problematic situations that are outside of the members' direct (contributory) expertise. The practices identified in Table 9 (Chapter 4) were used by the consultants to create the collective capability to function as interactional experts throughout conversations about problematic situations.

These three practices were routinely enacted by the consultants as they worked to construct the fluency needed to have a meaningful client interaction in which they were accepted as a part of the conversation the client was having. At the same time, helped the consultants address issues of identity, legitimacy, and accountability while co-constructing the problem definition internally and externally. The consultants' ability to co-construct the problem definition depends on their ability to establish and act with interactional expertise, so the three practices serve to help them develop and demonstrate fluency and levels of social attribution both with clients and with each other. Through these practices, the importance of the ability to act as meaningful together with ways in which the co-construction of expertise emerges. It comes out within the managerial environment in ways that use and challenge the object-orientation of the systems surrounding the consultants.

The practices themselves are not overly complex, and may seem obvious. However, they are not necessarily obvious to the workers being observed as they act in ways that construct

organizational interactional expertise together with a useful and action-oriented application of more managed knowledge objects. Additionally, formal knowledge management processes run counter to these practices, and the consultants were often working outside of defined processes to accomplish these work practices and activities. The practice orientation of this research provides a way of seeing the way work actually gets done rather than how it is prescribed to be done.

Similar to Orlikowski's (2002) practices identified within her site (Kappa), these practices at Delta Consulting "overlap and interact" (p.257) continuously over the course of time in an episode. They are not linear or dependent. The environment of Delta Consulting is inherently complex, and the practices overlap and cycle frequently. Construction takes place at different times and in different spaces, often with different participants. In examining each of the practices and their related activities, I considered how moves made among the consultants worked to construct interactional expertise through which they were able to effectively engage in problem solving conversation with their clients. The ways in which the consultants developed language skills and an understanding of the client environment that support their place in the conversation were highlighted in the activities identified.

Given that the situations encountered in this environment were almost always low in determinacy, the ability to participate in knowledge development through instruction or improvisation in problem solving was required and was often enacted together with the client. I suggest that the ability to demonstrate organizational interactional expertise creates an environment in which the clients and the consultants can jointly construct a problem definition or solution path. In general interactional expertise would not be required to support knowledge deployment actions of information transmission or information requests (Kuhn & Jackson, 2008, p. 460).

Discussing and Researching Internally

Discussing and researching internally is often a first reaction to the presentation of a client problem or opportunity, which can come from the client, from an internal identification, or through another route entirely, as discussed in Chapter 4. The knowledge accomplishing activities that comprise this practice include (a) identifying participants, (b) using knowledge assets formally and informally, and (c) developing language skills/rehearsing. The consultants did these continually throughout the episode, and collectively they created a capacity to act and to demonstrate fluency at a level of problem solving with the client where they were perceived as valuable to the conversation. Through each of these activities, the consultants had the opportunity to talk through the situation and to acquire individual and collective skills related to the problem and the client.

The consultants begin to productively struggle with the determinacy of the situation, working to establish identity, legitimacy, and accountability internally relative to the problem; they started to position a collective response for the client that represented the organizational capabilities through fluency and social attribution. The consultants were jointly negotiating their own internal positions and responsibilities as they prepared for and later executed on client interactions in which their ability to be positioned as “expert” will be scrutinized in subtle and overt ways. At the same time, they were practicing the language they would use and how they would engage with the clients in ways that demonstrated a command of the client environment, problem set, and language, consistent with Collins and Evans’ (2007) markers of fluency and social attribution relative to interactional expertise.

Identifying Participants

Regardless of the initiating event that started the process (RFP, formal request, informal request), once a client problem was presented, the consultants began a set of activities to ground themselves in an understanding of the client environment and potential needs. Generally, an initial discussion was held to determine who should participate in the response. From there a core group started to build an understanding of how to have a conversation with the clients. There were formal processes for identifying and assigning people to participate in discussions. These were typically supplemented or replaced by the relationships the consultants had with each other. The formal processes may have been convenience driven—whoever was available was assigned, regardless of skill set or background. In other cases, specific individuals were targeted for participation and were moved by management direction to work on the client problem definition. The group was then reinforced as people identified others who had skills or experiences that were useful for the conversations and brought them into the group.

In each of the 10 episodes identified, a group was organized, generally consisting of between three and six people. Selecting the participants was important, as one interviewee reflected on related to client GGG:

Activities	Internal Data
Identifying Participants	We are bringing our health care expert/lead in, because he can best represent the Delta Consulting expertise in that area, but he needs to be able to talk through all the ways we've solved similar problems before, which he probably can't do. We don't really know what GGG wants in this case, so we need to be prepared for whatever, we need to bring people who can go in a few different directions. (Bruce, 042711.02)

Bringing in an identified or acknowledged expert in the industry helps build a group understanding of the client environment, and will provide the client with someone who knows their industry, establishing identity and legitimacy of the group in problem solving. It is also a

form of classification that is self-reinforcing—as the individual is identified as an expert, the group later defers to his advice and recommendations regarding language use and analysis.

In this example the consultants start to move towards building identity and legitimacy through participant construction. The health care lead has an assigned expertise in the industry in which GGG does business, so having him in the conversation provides an ability to talk in detail about industry related issues if necessary. At the same time, in preparation meetings he works with the other participants to coach them on language and understanding, consistent with the affiliated enculturation Collins and Evans (2007) describe as non-scientists participate in scientific discussions.

Delta's expertise in the industry is insufficient in terms of being able to more broadly represent Delta Consulting in the problem set. The inclusion of other people who will have the responsibility of representing the breadth of Delta Consulting experience is intended to supplement the industry expertise brought by one individual, and to create a broader fluency beyond the potential direct connection to the client's environment. The collective becomes capable of multi-dimensional fluencies about the industry, the environment, and the potential problem set. Finally, the identification of the individual as the expert in the industry supports creating accountability for his performance as such—the group's ability to convince the client that there is an appropriate level of understanding of the industry rests heavily within this designation. He is accountable to both the client interaction and to educating and enabling the rest of the group to be able to speak well on the major topics.

Internally, the consultants set expectations with each other for the anticipated discussion with clients regarding roles in the conversation. This role definition helps to drive a collective

capability especially in the typically highly indeterminate scenarios. Role negotiation and establishment happens face-to-face, over the phone, and through e-mail, as well as later on in the introductions that happen during client interactions. An example of a move in e-mail dialog between consultants in preparing for a meeting with Client BBB shows a consultant framing the anticipated client conversation:

my plan is to put together a high level, broad introduction to our marketing capabilities. Then, we can use that as a conversation starter to go in whatever direction she wants. Sound OK? (Dan, BBB.060611.04)

The consultant creates an assumed starting point that he delivers, which will help establish him as an expert in that capability set (in this case marketing), knowing that the client might not focus on marketing as an important part of the discussion. Being prepared to go in different directions and to improvise as the conversation develops will be a group responsibility as they move into the client interaction. Establishing roles within the episode serves to create a way for the consultants to construct their dialog and to manage the ambiguity of what will come with the client interaction. The ability to provide some degree of structure and control of the conversation by anticipating what will be meaningful to the client helps the consultants prepare for the interaction. It allows for the development of accountability for establishing client confidence and connection, and supporting a collective capacity to act to jointly construct the problem definition.

Using Knowledge Assets in Formal and Informal Ways

As participants are being identified, consultants embark on research internally to understand the collective competency in the industry, area, or business problem. They employ formal knowledge assets including databases, communities, and external resources like analysts

and research firms, bringing the managed knowledge assets into play as they develop their own understanding of the problem set. This often starts with a general poll through the local office, searches of the iKnow2 database¹¹, use of research partners to understand industry related context, and external research on the company's website or other commonly available resources. Throughout, the teams share information collectively, usually through e-mail and phone conversations as they prepare for the upcoming client meeting. The resources they use serve to establish their legitimacy within the group while at the same time building their ability to talk about the topic(s) and creating their identity within the group. They routinely discuss what they have found, comparing notes and updating their collective understanding, determining priority information versus less important points, and learning how to talk about the client's environment.

One common move is the distribution of a "globie," an e-mail to the company at large asking for help. Globies do two interesting things related to this research. First, the distribution of the globie is negotiated among the team—who will send it and what it will request are the two major questions asked. Within this negotiation, there is acknowledgement of identification and legitimacy, as well as establishment of accountability to the group for developing a certain level of knowing about a particular area. These all contribute to the group's collective capacity to act later in client interactions; in these early negotiations regarding resources, they are starting rehearsal for building their language skills and understanding their collective capabilities.

Second, globies provide an avenue for opening conversations with informed people who are in the organization but outside the group working on the problem at hand. The globie request

¹¹ iKnow2 is a database of tangible knowledge artifacts including presentations, contracts, former clients, examples, methodologies, research data and analysis, and other documents that reflect work done by the company in a variety of situations for clients or internally.

will typically ask for something specific—documents, reference, names, and so forth. The responses often include an invitation to “chat about,” “talk further,” or “catch up,” about whatever is provided. These conversations provide the consultants with context for the artifacts they have received, but more importantly, they provide a way for the consultants to practice the conversations they will later need to have with the clients. It was common in the episodes tracked for a globie to be sent, and then followed up with several phone calls with people who had responded and offered to help. In these phone calls, the consultants typically asked about language, style, context, and culture as much as about the technical details of the artifacts they had received.

An example of a globie in a common format comes from a consultant looking for help with a particular discipline. In this case, the consultants had discussed who should send the note, and decided on Ann because of her affiliation with the group most likely to have information on gamification—the primary topic of interest for the client. Her identity as the liaison with this internal group later proved to be consistent in terms of how she was represented to the client, and supported her ongoing dialog with the client on this topic¹².

Activity	Data
Using Knowledge Assets	Apologies for the globie, but an iKnow search did precede this request! Delta Consulting is embarking on a project to implement a new Meetings Sales Strategy for (client), and I am exploring gamification.... I would greatly appreciate any experiences you may have had with gamification (integrating game dynamics into a campaign/project/site to drive participation) as a means of fostering engagement and adoption – all ideas welcome!

The response to this globie was approximately seven e-mails with information on gamification, describing experiences, client interactions, and personal background in the area.

The consultant had three follow up phone conversations with colleagues on the topic, and was

¹² The apology up front in the globie is a common move. Consultants are discouraged from sending globies, because they are supposed to use the iKnow2 database instead of ‘bothering’ their colleagues. During this study, a management process was implemented to control globies; the volume did not noticeably decrease.

able to come back to the group working on the client interaction and help them to understand the topic and how it might be meaningful to the client. As a collective, they developed a fluency in discussing the ways in which gamification might be appropriate in a certain situation, and how it could be represented in different ways. The deeply communicative and connected nature of this example speaks to the ways in which interactive expertise as an action-oriented capability goes beyond a credential (expert in) or knowledge object (document about) for a topic. Developing the collective ability to have a productive, problem solving conversation on a topic as an expert is the core of interactional expertise.

Developing Language Skills/Rehearsing

During internal discussions, the consultants worked on language skills and rehearsed—primarily informally and occasionally formally—especially in preparation for an oral presentation for an RFP. The activities are embedded in their day to day conversations where they routinely ask each other for appropriate terms and phrasing. For example, in preparing for a meeting with Client EEE, a mid-sized credit union, the two consultants who were working on the proposal spent time with a credit union subject matter expert. He coached them through appropriate language use, including being sure to refer to *members* instead of *customers*—as he put it, “if you say customers it is a dead give-away you don’t understand credit unions” (Scott, FN.052711). A similar phrasing was used with HMOs¹³ who generally emphasize that they have *members*, not *patients* (Adele, FN.060411) and that it is important in preparing for meetings with Client GGG to remember the language. With this particular client, *doctors* are referred to as *partners*, another term that can indicate to clients how familiar the consultants are with their environments. In eight of the episodes, internal discussions about specific language choices

¹³ An HMO is a Health Management Organization. Often a non-profit, they generally only serve members of the HMO rather than the public at large.

were included and were then incorporated into the consultants' discussions as they prepared for client interactions. These provided subtle markers of identity and legitimacy within the later client discussions, and drove fluency and social attribution that indicated appropriate enculturation for effective problem solving. Other language skills included the appropriate use and pronunciation of acronyms, knowing industry terms, and having a familiarity with common names and places that were meaningful to the client organization. In eight of the ten episodes, I noted consultants referred specifically to language choices and appropriate use in internal discussions as they worked to prepare for client meetings. Learning these types of language moves supports the Collins and Evans (2007) emphasis on enculturation and social affinity that is required for interactional expertise, and helps the consultants in their ability to integrate quickly into the client environment and conversation.

Developing appropriate language was incorporated into the everyday work activities of the consultants, and was not called out as something special to do in preparation for meetings. However, in the case of formal orals presentations¹⁴, the consultants did rehearse presentations and talk through formal roles in the meeting and how to respond to certain anticipated questions. During these walkthroughs, the consultants may have colleagues with industry experience provide input and suggestions to build their capabilities with the local language, and they may have people play the role of clients to ask questions and establish appropriate responses. This type of formal rehearsal helps to build capabilities and establish the group interactions that will occur during the more formal presentation.

¹⁴ Orals are often held in association with an RFP, and are an in-person (occasionally by phone) presentation and discussion with the client about the consultancy's response to an RFP.

The consultants were notably unsuccessful at using appropriate language in one meeting with Client GGG. This client had a particularly complex structure including a non-profit company and a for profit company within a larger holding company. The implications of this structure were not clear to one consultant who did not realize that in the meeting there were people from both companies in the room. The consultant failed to easily navigate between the two, causing one client to feel there was a disconnect that would make it hard to have the consultants help with the problem at hand. For example, it is important on the health care side of the business that there is a strong commitment to the physician-partner role in decision making. The consultant in question made several comments along the lines of “well, you know the docs might not like it but it makes the most sense...” (GGG.FN.060911). His language choices were inconsistent with the culture of the organization, leaving him unable to effectively interact. As the client noted in the meeting “it seems like you just don’t really understand who we are.... I’m not sure how someone who doesn’t know who we are can help with....”(GGG.FN.060911). The consultant had failed to establish legitimacy, and demonstrated such low social affinity that the client could not accept him as a member of the broader conversation. Going forward in the meeting, the client subtly moved the conversation away from him, directing questions to others on the team and avoiding direct contact. As Kuhn and Jackson (2008) point out, when the image of knowledge or expertise is contested, the resources that are being used to shape the situation become more obvious. When the consultants fail to establish a connection, their practices quickly become suspect. In this example, the collective capacity to act was maintained through the group’s ability to compensate, which demonstrated the value of the variety in the model. As one consultant struggled with using appropriate language, others were able to pick up and

continue on, asking appropriate questions, sharing experiences, and using appropriate language in other ways.

Summary of Discussing and Researching Internally

The activities that comprise *discussing and researching internally* combine to create a collective capability to apply complex knowledge development practices in ways that support fluency in discussing problematic situations. The consultants worked to establish this fluency through each of the activities highlighted in the model: (a) identifying participants, (b) using knowledge assets in formal and informal ways, and (c) developing language skills/rehearsing. These all contribute to how the group members and the collective establish identity, legitimacy, and accountability to manage the indeterminacy of the situations while building fluency and social attribution that supports their direct client interactions and their ability to productively work with the clients to frame the problem definition.

As these three activities took place, the consultants were often moving towards formal discussions with clients. Over the timeframe there may be informal contact with clients in which they ask questions, discuss experiences, and learn the language of the client and as such, the second practice, interacting directly with the client, is not a linear step in a process, but more a part of the flow of the episodes. The specific activities that occur during client interactions are discussed in more detail below.

Interacting Directly with Clients

Interacting directly with clients may happen throughout an episode both informally and formally. Typically, the consultants are working towards a meeting or series of meetings with the client in which several consultants will meet with several clients to talk through the issue that has

been raised, and to attempt to jointly construct a problem definition or targeted solution. Throughout the various interactions, the identified knowledge accomplishing activities are brought into play. They are most easily seen in the targeted group discussions that are often significant moments within episodes.

During the client meetings, the consultants engaged in three primary activities to establish identity, legitimacy, and accountability; to support fluency and social attribution; and to increase determinacy or a common understanding of the problem to solve. These two—asking context appropriate questions and storytelling/sharing experiences through appropriate language—were put to work to contribute to a collective interactional expertise that allows the consultants to productively participate in conversations with the clients.

Asking context appropriate questions

During client meetings, the consultants worked at building identity and legitimacy and establishing their understanding of the culture and environment through context appropriate questions. The degree to which their questions resonated also informed impressions of fluency and social attribution for the client, making the client more or less open to the consultants' participation in the conversation.

In Episode GGG, there was a sequence of exchanges during which the consultants asked several questions about an industry issue that was not part of the immediate problem being discussed, but that quickly established identity with the client in its framing and applicability to the client. The following excerpt from field notes provides a sense of the exchange.

Activities	Client Data
Asking context appropriate questions.	<p>Consultant: "I just came from working with (client), they were really struggling with ICD10 planning. How's that going for you? Is it causing a problem with how you get this project going?"</p> <p>Client: "What do you mean - what kinds of problems?"</p> <p>Consultant: "well, you know, pulling resources, people have to go work on that instead of on (this project), budgets get moved?"</p> <p>Client: "oh, yeah, exactly, that's totally a problem. Sure, I have two project managers who spend most of their time on that instead of on this."</p> <p>The conversation then continued with some additional color around the ICD10 planning. The client made several references later in the conversation to the consultant who had asked the question, saying things like 'I know you get it' about a variety of topics in the industry that had not been explicitly discussed.</p>

In this exchange, we see the consultant asking a question about an industry important topic, ICD-10¹⁵, which is not part of the problem that is being discussed, but that has ancillary impacts on the clients and the situation. The consultant's ability to connect this outside influence within the context of the problem being discussed created a sense of connection with the client that was referred to several times throughout the discussion, and that served to establish a confidence in the client that the consultants were fluent in the issues impacting the client environment. This exchange has an overlapping activity in storytelling/sharing experiences. This added dimension created a sense of expertise in the broader industry that served to give the clients a sense of local expertise that was useful within the client's specific situation.

As noted in an earlier example, the consultants are not always successful in navigating the complexities of client conversation and establishing connections, and interactional expertise is under continuous negotiation. One successful meeting does not cement the perception of organizational interactional expertise, or guarantee a place in the conversation going forward. In preparing for a meeting with Client BBB, the consultants referred to available information on their various manufacturing sites and processes during their research. In the first formal meeting with Client BBB, one of the consultants, Andy, began asking questions about the details of the

¹⁵ ICD-10 is the international classification of diseases. Its use will be mandatory in health care organizations filing claims with Medicare as of October 2013, and converting to its use is a significant impact on the health care industry at this time.

client's operations, and the clients became visibly frustrated with the line of questioning Andy was following. One client commented "I really don't see how that's relevant to what we are talking about.... You can look it up online if you really want to know how it works." A second client added in "maybe you should be meeting with someone else if that's what you want to discuss." (BBB.FN.061011). It was a clear move to close down the line of questioning and called into question the appropriateness of the consultants participation in the discussion.

The questions were out of context for a variety of reasons, and the lack of awareness on the part of the consultant created a collective sense of disconnection from what was important to the clients. There was a lack of social attribution that was amplified by the consultant's failure to establish identity or legitimacy regarding the conversation and the problem to solve, because the manufacturing process was not a contributing factor in the clients' situation. In this example, another consultant picked up the conversation and reframed the questions in a way that was relevant to the discussion. Later in the meeting, one of the clients commented that he was "a little worried there for a minute, but it seems like you really do understand what we need." The continuous negotiation of expertise speaks to the action orientation in that it is never complete, it is always emerging from the dialog at hand, and the practices identified support its ongoing construction, but also introduce risk in that mistakes happen. This tension is certainly a part of what feeds the management tendencies to systematize and control, and thereby reduce the risks of emergent constructions being unfavorable to the company.

Storytelling/Sharing Experiences

The use of storytelling and shared experiences was consistent throughout the episodes, and they served to establish multiple dimensions of identity, legitimacy, accountability, fluency, and social attribution. In each episode, there were multiple examples, in some cases explicit, in

other cases simply part of the normal flow of conversation. The power of storytelling was described by one consultant in an interview:

It really was that SME a combination of that SME and a couple of the practice leads had a lot of good story telling around quals they've seen in retail ... so they just established themselves as deep experts in the industry in understanding some of the technologies in the industry ... yeah, I think storytelling really capped it for them.

As Kyle recounts in his interview, the clients responded well:

Walking out of the room, the guy said it was the best meeting he'd ever had with consultants. And I think a lot had to do with that one SME and the stories he told. (Kyle, 050811.117)

Storytelling and sharing experiences places the consultants for the clients in terms of legitimacy and creates a fluency in the problem set that supersedes the clients' internal environments and challenges. It allows the consultants to construct near-contributory expertise without knowing exactly what the clients need or want in their own specific environment and serves to build a sense of connection and social affinity. As well, it supports identity development and establishing legitimacy by framing the client's problems in terms of something that has happened somewhere else. By telling a story or sharing an experience, the consultants are able to frame the problem in terms that best establish their expertise and that place them in certain roles or authorities relative to the story. This supports establishing for the client how to place the consultants as experts who can contribute productively to the client's problem solving needs.

In another example, Client AAA was especially unclear about how to effectively use consultants in solving the problem they had, which they struggled to define. As one client said in early discussions, "we need to be different, but we don't know how" (AAA.FN.051811.04).

There was a very low level of determinacy regarding the problem definition, making it difficult to prepare well. As an interviewee describes:

During the initial conversations, we involved several people to represent the Delta Consulting experience. We brought in Dan, Kyle, Scott, Albert, you, and myself¹⁶. We gave them some ideas on what Delta Consulting does in this area ... In those initial conversations, we mostly focused on being fluent in the problem ... since we didn't really know what they wanted, we had to be ready for anything, and wanted to show our ability to talk about their challenges, so lots of different perspectives at the table ... we needed to be able to tell a lot of stories, share a lot of examples.

Without a good sense of the problem, the group that was constructed was intentionally built to be able to tell stories in a variety of topical areas. Similar to the challenges Collins and Evans (2007) note in their model, stories and experiences are particularly hard to transfer to others, and the consultants often bring additional people into the conversation rather than trying to learn about and represent specific stories. This difficulty expresses one of the knowledge management challenges and risks that management approaches try to mitigate through objectifying knowledge—once the experienced person leaves, it is very difficult to tell stories or share experiences. Part of the strength of this model of organizational interactional expertise is that the aggregate of the practices and activities support it, so a gap in any one can be offset to a certain degree by strength in others.

Summary of Interacting Directly with the Client

Interacting directly with the clients is a point at which the consultants have the opportunity to see if they are connecting with the clients, and if they are establishing a place in the conversation as the clients work to define their problem and potential

¹⁶ In this case, each individual represented a specialty area, for example Dan is a “marketing guy,” Scott is “human capital,” Kyle is “sales.”

solutions. While the consultants do not necessarily overtly attempt to establish “organizational interactional expertise,” as an observer, I had the opportunity to watch as these two activities in particular supported the practice of interacting with the clients in ways that reinforced or deconstructed organizational interactional expertise. Throughout the episodes, the consultants routinely used these activities and continued to refine their communication with clients to build their position within the problem defining/solving conversation. These were not discrete instances, however. Iteration and evaluation happened throughout each episode, as described below.

Evaluating and Iterating

The consultants engage in an ongoing cycle of evaluation and iteration both internally and with the clients. There is often a very quick de-brief immediately following the client meetings, sometimes on the elevator or in the parking lot, to discuss while the conversation is still fresh. During this debrief, initial notes are compared about the discussion, and generally a plan is set for going forward. Later more in depth reframing of the problem based on the client discussion happens in a variety of formats, including internal working sessions, conference calls, and email. Depending on the situation, there is often additional iteration with the client to clarify and jointly reframe with client input.

It is through these evaluating and iterating discussions that the episode is eventually brought to conclusion. Conclusions often fall in one of three categories: (a) a joint problem definition/target solution with which the consultants will help deliver, (b) a joint problem definition/target solution with which the consultants will not help deliver, or (c) an inconclusive problem definition/target solution where the client or the consultants decide to stop participating

in the conversations. The third option can be driven by a variety of external influences including, for example, Episode BBB where the client was acquired by another organization and all in-flight discussions with outside vendors were terminated until further notice.

The activities of evaluating and iterating include: (a) debriefing internally and discussing the client interactions, (b) reframing the problem internally, and (c) iterating with the client. The three activities may happen quickly or over a long period of time, depending on the situation. In each, it is possible to see ways in which the consultants work to hone their language skills, update their ability to converse on the topics, and continue to engage in conversation with the clients as experts relative to the problem at hand.

Debriefing Internally and Discussing the Client Interaction

After an initial meeting with the clients, the consultants routinely reconvened to review what was discussed and determine next steps. Key attributes of these discussions were the way in which the client responded, how to respond to direct requests from the client, and who will participate going forward. It was not unusual for the consultants to decide to introduce new colleagues to the conversation at this point if they detected a gap in demonstrating an understanding of the client environment. Typically conversations centered around a better definition of what the client “really” wants or needs based on the consultants’ interpretation, and a separate assessment of how the client understands what they need. The consultants look for verbal clues from the clients regarding the problem definition. Common comments from the consultants in debriefing included variations on the following:

- They just don’t really know what they want, do they?
- I’m not sure they really understand what they are asking for.

- So they said they want a project manager, but what they really need is someone with change experience
- If they think a new system is going to solve that problem, they are going to be disappointed
- So what they really want and what's in the RFP are pretty different

These often came from direct comments from the clients, where the clients would say “we don't really know what we want,” or in the case of Client DDD, a client saying “the RFP asks for ... but that isn't really what we want.” Resolving these types of internal gaps is a part of the iteration process, and the consultants evaluate them to understand where they need to fill in gaps in the clients' knowledge as well as their own.

These internal discussions provide the consultants with the opportunity to improve their fluency and social attribution with the client environment, in preparation for follow on conversations and interactions. They also give the consultants the opportunity to talk about how they talked with the clients—what worked, what did not. They tend to have very intentional discussions of the communicative environment—reviewing body language, comments, and concerns—and they strategize over how to address perceived issues going forward. As they refine their understanding of the client capabilities, environment, personalities, and needs, they adapt their communication and participation to create higher connections and to establish stronger identity, legitimacy, and accountability.

In assessing their internal understanding of the problem, the consultants generally tried to leverage previous experiences, using expressions like “when we saw this before ...” and “it sounds just like ...” together with references to documentation and examples, primarily pulled from their own computers (as opposed to the iKnow2 database). They would call previous team members from other projects and talk through the client meeting with people who knew the industry or the subject matter. In all of these conversations, the people directly responsible for

talking with the client were building their ability to talk effectively about the perceived problem. In these processing steps, the consultants were iterating back through the earlier practices in discussing and researching internally as they rehearse new language, learn new information, and become better grounded in the industry and the client environment. The set of practices are reinforced by each other as a model.

Iterating with the Clients

Ideally for the consultants they have the opportunity to iterate with the client to come to a common understanding of the problem that needs to be solved. They often propose small workshops or problem framing sessions to help both the client and themselves get a better understanding of what the problematic situation to be solved really is. This suggestion was put forward in an e-mail to Client BBB shortly after the first in-person meeting:

As an even more targeted idea, it sounded like there might be value in doing an internal Marketing team workshop to get the team on the same page regarding how to coordinate with Sales, Product, and generally with the market to make the best use of the resources available. (BBB.60911.01)

The client's response to this suggestion was positive, and in fact a workshop was scheduled for later that month. These types of workshops or other iterations with the clients provide the opportunity for the consultants to reposition themselves as experts within the conversation, and often are structured to create the opportunity for the consultants to bring contributory expertise into the space. For example, in Episode BBB, the client and the consultants got back together in a workshop to talk through general organizational structures for marketing, sales, and product teams, using examples from outside the client environment. The consultants were not contributory experts in the client environment, but did have contributory expertise regarding how the organizational structures were rendered in other industries. Being

able to demonstrate this expertise to the clients gave the consultants added veracity in their interactional expertise in other conversations.

Again, the consultants were not always successful during iterations with the client. In the case of Client AAA, in debriefing and reviewing the interaction the consultants determined that the client wanted a fairly small organizational alignment effort. In reviewing the data collected, it seems the consultants moved quickly to a problem set they knew well. In the debrief there were comments noted that included “why don’t we just start with something easy, something small so they (the clients) get to know us and we get to know them.” Another comment was “let’s go back with alignment work and see what they say.” They went back to the client with this idea and in fact it became apparent in later communications that the client really wanted a fairly large assessment of their staff capabilities in key areas. The consultants lost focus on maintaining a degree of interactional fluency with the client, and went back to their local language. As a result, in a follow up discussion through e-mail with the client, the client indicated that the consultants were “off the mark” in what they were proposing. Specifically, the client commented that “maybe we need to talk some more about our particular situation” (AAA.061511.EM). We can see from this example that organizational interactional expertise is continually negotiated and constructed through communicative action, sometimes successfully, sometimes not.

Summarizing Evaluating and Iterating

Evaluating and iterating both internally between the consultants and externally with the clients creates an ongoing action around how organizational interactional expertise is enacted through knowledge accomplishing practices. The consultants must continually engage in the

activities identified across the model to negotiate and re-negotiate their place in the problem solving conversation, and the work is never completed, packaged, and put away. It is emergent, it works sometimes and not others, and there are always possibilities for improvement or disintegration as they go through the episodes. The data set points to the importance of experience and of communicative skills in being able to understand and respond to communicative cues in meetings, being able to ask context appropriate questions and relate appropriate stories and experiences, and to be able to continue to refine those points to establish fluency and social attribution with the clients. Along the way, the co-construction of the problem definition and identification of potential solutions was the end result of the iterations, but the outcome was less important than the ongoing construction and the actions associated with it.

Analysis Summary

The three practices and their related seven activities all serve to support the consultants' development of organizational interactional expertise: a collective capability to apply complex knowledge development practices in ways that support fluency in discussing problematic situations that are outside of the members' direct (contributory) expertise. Each practice and the activities embedded within help the consultants to establish identity, legitimacy, and accountability, while also supporting the development of fluency and social attribution within the context of the client environment. As the consultants worked with the clients to improve determinacy, better define the problem, and create potential solutions, the consultants continually renegotiated their place in the conversation, actively employing knowledge assets while co-constructing new knowledge and capabilities through their communicative actions. The consultants learned, changed, adapted, and moved in new and un-prescribed ways throughout the

episodes, dynamically creating and recreating ways to communicate within the practices identified.

Sometimes they succeeded, sometimes they failed, and throughout an episode they might have done both more than once. The social nature of the actions creates more unknowns, but also provides the springboard for innovation and creative problem solving collectively between the clients and the consultants. If the clients relied only on people with direct contributory expertise in their area of specialty they would be limited in their perspective. If the consultants only worked within problem sets they knew directly, they would quickly grow stale and outdated. It is the emergent nature of the communication that truly puts knowledge to work, demonstrating the communicative action-orientation of interactional expertise. In fact, within the practices and related activities, formal, tangible, static knowledge assets play only a supporting role within the development of communicative capabilities that support interactional expertise and a collective capacity to act.

When the consultants were able to successfully establish and maintain organizational interactional expertise and engage productively in problem defining/solving with the clients, they were able to create new solutions for the client that might not have been possible otherwise. This analysis does not attempt to qualify those solutions as good or bad, right or wrong, only that the collective generation of them happens when the clients were able to accept an outside voice in the conversation as a contributing part of the dialog.

CHAPTER 6

CONCLUSIONS

In businesses today, time, energy, and resources have been committed to systematizing the answer to *what is organizational knowledge*. This focus on building systems has resulted in extensive knowledge assets being developed and understood to represent organizational knowledge. These assets include artifact databases, communities of practice, networks, and other structures that have been supported by theory development in understanding how knowledge moves from tacit to explicit and from individual to group, among other models. Seeing how knowledge assets are a part of a larger, more holistic perspective on organizational knowledge as an emergent construct continues to be a challenge in the workplace. Practice based research that focuses on how work gets done supports an action-oriented position that de-emphasizes the asset based question of *what* and responds instead to questions of *how*. This extends the tradition of Weick (1988), Spender (1996, 1998, 2008) and others who explore enactment, emergence, and the ways in which knowledge is seen in action. In this study, I have specifically looked at organizational interactional expertise as a way of focusing on the communicative practices in which knowledge in action is continually reconstructed through dialog. This places the research questions in an action-orientation, examining how organizational interactional expertise is enacted through knowledge accomplishing activities.

When I started this research, I envisioned parallel tracks of extending the theoretical discussions of organizational knowledge as emergent and co-constructed together with reconsidering how organizational knowledge is understood and valued in business. My research questions specifically address the phenomena of interactional expertise and knowledge accomplishing activities by asking R1: How might interactional expertise be evidenced

organizationally, and R1a: How do knowledge accomplishing activities relate to organizational interactional expertise? In responding to these questions, I used an expertise model, and specifically the concept of interactional expertise, proposed by Collins and Evans (2007) together with the methodological frame proposed by Kuhn and Jackson (2008) as a practice based approach to seeing knowledge accomplishing activities. The concept of interactional expertise, as defined by Collins and Evans (2007), fills the space between informal and formal knowing—that there is something between experience and book learning that is valuable to problem solving within disciplines. The emphasis on communication and emergence makes the idea of interactional expertise an interesting one for extending theory

With these research questions I took a practice based orientation towards organizational knowledge, looking at how it is enacted as a form of expertise rather than what it is seen as a tangible asset. Through this orientation, I worked to build out the theoretical basis of organizational interactional expertise together with considering the most significant *in situ* challenges businesses experience related to organizational knowledge. These challenges include: understanding how and what to value about organizational knowledge; how to deal with the “people side” of knowledge in an environment where people enter and exit regularly; and how to get the right knowledge to the right situation with the right context.

In considering the theoretical basis, I defined organizational interactional expertise as the collective capability of an organization to apply complex knowledge development practices in ways that support fluency in discussing problematic situations that are outside of the members’ direct (contributory) expertise. This is consistent with the definition proposed by Collins and Evans (2008), but extends the analysis to the work practices that are used to enact interactional expertise, and the ways in which workers continually construct their communicative abilities to

build the ability to interact as experts. I coupled this definition of organizational interactional expertise with the methodology proposed by Kuhn and Jackson (2008) to look for how interactional expertise was enacted in the workplace. By leveraging their suggestion of knowledge accomplishing activities together with the idea of interactional expertise, I identified three core practices that provide a heuristic for understanding the ways in which knowledge accomplishing activities are used to establish organizational interactional expertise among consultants as they prepare for and execute on client interactions. This expertise is continually reconstructed and renegotiated through dialog between the consultants and the consultants and their clients. The dialog is supported by specific activities on the part of the consultants, where they actively pursue development of communicative capabilities in their day-to-day work.

Using a practice based methodology, I observed the ways in which the knowledge intensive environment of a management consultancy puts knowledge assets and communicative activities to work in establishing ways to enter into problem solving conversations with clients, and then how those conversations played out. Data collection included participant observation, interviews, document review, informed observer discussions, and informal on site discussions. These various sources provided a robust data set that was used to analyze the practices and activities of the actors as they negotiated complex problem solving with clients. The practices I observed were complex and often non-linear, as well as deeply communicative. Consistent with the construct of interactional expertise, I homed in on the activities and practices that supported the development of interactional capabilities by the consultants as they worked to prepare for, participate in, and follow up on client discussions. The three practices I identified in support of organizational interactional expertise were enacted with knowledge accomplishing activities that

demonstrate the specific actions taken by the consultants that occurred consistently across a variety of situations.

In identifying these three practices, I took an episodic approach consistent with practice based research and specifically the methodology provided by Kuhn and Jackson (2008). As I sifted through the data, I organized my analysis around 10 episodes in which clients presented a problematic and the consultants worked to construct a capacity to act. The 10 episodes track individual client situations. Within each episode, I identified activities based on observation, document review, and reflections provided in interviews and informal discussions on site. As I went through my analysis, looking for ways in which the consultants dealt with identity, legitimacy, and accountability while developing fluency appropriate for client interaction, I coded for discursive moves and actions that created a collective capacity to act, resulting in the three practices and their related knowledge accomplishing activities. The three practices emerged from themes that became apparent as I moved through analysis, and the related activities were derived from consistent actions taken by the consultants as they worked through the various practices.

Practice	Knowledge Accomplishing Activities	Construction of Organizational Interactional Expertise
Discussing and researching internally	Identifying participants	Knowing similar situations, clients, and problems, building identity, legitimacy, accountability
	Using formal knowledge assets in formal and informal ways	
	Developing language skills / Rehearsing	
Interacting directly with the client	Asking context appropriate questions	Speaking fluently about the client situation and creating connection
	Storytelling / Sharing experiences	
Evaluating and Iterating	Debriefing internally and discussing the client interaction	Demonstrating a revised understanding/ definition of the problem and improved fluency
	Iterating with the Client	

These practices and related activities function to demonstrate how consultants continually co-construct knowledge as a capacity to act through communication with each other and the clients. They are also aligned with Kuhn and Jackson's (2008) approach to the complexity of

framing a problem communicatively over time, highlighting four markers including: (a) identification of the problematic situation, (b) uncertainty regarding appropriate action, (c) consideration of ability to intervene, and (d) an interest in committing resources (p. 471). We see dimensions of these markers in the practices identified, as well as acknowledgement of the non-sequential nature of them as pieces of each are dispersed throughout the activities discussed.

The three practices identified in establishing organizational interactional expertise provide a way for seeing the frame of the problematic situation with the client, and how the consultants work in a cyclical, although not linear, way to co-construct interactional expertise to effectively engage in client conversations and to be accepted as participants in the discussions about how to solve complex client problems. Each practice represents a piece of how organizational interactional expertise is developed by the consultants. The associated seven activities are tactics employed by the consultants that support the practices. These activities help to further define and make explicit the ways in which the practices are enacted, as well as the dependency on communicative activities to establish organizational interactional expertise.

The practices provide a way of responding to the question of how organizational interactional expertise is constructed through the associated knowledge accomplishing activities. The practices of *discussing and researching internally*, *interacting directly with the client*, and *evaluating and iterating* have knowledge accomplishing activities associated with them that may change over time or in different environments as is contextually appropriate, but I suggest the practices themselves are enduring in developing organizational interactional expertise. Through them, issues of identity, legitimacy, and accountability are negotiated, fluency is developed, and problem definitions are jointly constructed between the consultants and the consultants and the clients. We see elements of the practices in other examples, including the call center episodes

provided by Kuhn and Jackson (2008). In this example, a call center representative takes a call and determines if she knows how to answer it. Lacking contributory expertise, or hands on knowledge of the solution, the representative moves to discussing and researching internally, referring to manuals and discussing with other representatives. She interacts directly with the client, depending on her ability to talk about the problem to keep the client engaged in joint problem solving, and evaluates and iterates based on the client interaction and what she learns from the other representatives and the tools they use. While this example is more compressed than in the episodes constructed in this research, it serves to demonstrate how the model can be applied to different types of situations, where interacting about a problem is critical to problem solving.

As an example from this research, Episode AAA tracks interactions with clients from initial contact through to the clients making a decision about how to solve their identified problems. When the first contact was made, the clients provided a clear problem statement, but had little understanding of how an outside firm could assist them in problem solving. The consultants began preparing for discussions with the clients by discussing and researching the environment internally, tactically employing the identified knowledge accomplishing practices of *establishing a team, using knowledge assets, and developing language skills*. The consultants informally rehearsed their language skills by talking with colleagues and shaping their language to the expected client environment. This was not a conscious step in their process. It was a deeply embedded work practice that consultants executed on seamlessly within broader work. In meeting with the clients, the consultants managed their direct interaction with the activities described in the model, asking context appropriate questions and storytelling/sharing experiences. Through these activities, the problem set was reframed and consultants co-

constructed a new understanding together with the clients. While the activities do not always go well for the consultants they are attempted consistently throughout the episodes. Later, in evaluation and iteration, the consultants reassess the framing of the problem, the knowledge needed to solve for it, and how to best interact going forward. They specifically discuss the client interactions and how it felt, how it was received, what worked, what did not work, and incorporate that analysis into their later interactions. Throughout the episode, the consultants move back through the various knowledge accomplishing activities as they exercise the practices, discussing, interacting, and iterating fluidly across time.

As Kuhn and Jackson (2008) point out, the practice based themes of “community-based interactive framing of problems, the dynamic and provisional nature of knowing, and the moves that pragmatically accomplish knowledge” (p. 472) are seen in these practices, as they are indicative of the ways in which the consultants communicatively establish a capacity to act, using the organization’s formal knowledge assets together with what emerges from their internal and client-facing conversations. Considering the three practices theoretically, we can apply the Collins and Evans (2007) expertise framework and definition of interactional expertise to understand how the consultants use the practices to organizationally construct interactional expertise and to be accepted to participate in problem solving conversations when they do not have contributory expertise for the problem at hand.

Collins and Evans (2007) point to the gulf between science-scientists and those who think about, talk about, are impacted by, or who are interested in science and helping to solve for scientific challenges. They suggest that interactional expertise, when authentically applied, helps to push conversations in important directions. This research provides a basis for looking at the divide between business and those who think about, talk about, are impacted by, or who are

interested in business and solving for business problems and applies a similar model to evaluate how interactional expertise is constructed organizationally, in ways that open companies to broader conversations about their challenges. Collins and Evans (2007) have been arguing for a place at the table for non-scientists to engage in discussion about scientific things. The conduit they propose for this engagement is “interactional expertise”—the ability to speak fluently about topics in which a person may not have first-hand experience. There is space for a similar argument in business—that there is room in business discussions for more than just the people who know the details of a particular business environment.

Opening up dialog with others who are “interactional experts” in a particular domain will broaden the way in which knowledge assets are put to work and potentially improve cross-organizational communication in meaningful ways. For example, in the introduction of this dissertation I referenced the 2010 Deepwater Horizon¹⁷ oil spill associated with British Petroleum (BP). BP is a company with very strong commitments to organizational knowledge as a managed asset. In the Deepwater Horizon situation, it became apparent that despite extensive documentation of safety procedures, best practices, and other traditional knowledge management systems to capture and store organizational knowledge, systemic communication failures led to tragedy (Urbina, 2010). I am not suggesting that a theoretical framing of organizational interactional expertise could have prevented Deepwater from happening, but I do hope this research can encourage thoughts in business on how to expand the business application of organizational knowledge to include the time spent searching, discussing, and becoming fluent in an environment such that problem solving and/or risk management can benefit from outside

¹⁷ On April 20, 2010, the Deepwater Horizon oil rig exploded in the Gulf of Mexico, resulting in eleven deaths and significant environmental impact. Three different companies, Halliburton, BP, and Transocean, were held responsible for the accident in different ways. Lack of coordination and communication between organizations was indicated as a contributing factor, with the official government report citing “better communication within and between BP and its contractors” (Broder, 2011) as one of the ways in which the disaster could have been prevented.

perspectives more effectively. It demonstrates how reaching across business divisions, partners, regulatory bodies, and others to have effective conversation, even with groups that do not know the specifics of the environment, can be useful. It is possible that by including a deeply communicative dimension to knowledge management that is less committed to artifacts and more committed to emergent knowledge development that supports interactional capabilities, an organization like BP can have a more effective environment in which knowledge is put into action across groups to problem solve and proactively identify and mitigate risks. Having interactional experts working across divisions, contractors, and regulatory oversight groups can be a way to frame this in a language that is accessible to businesses that have a managerial structure.

As a scholar, my interests are in finding effective ways to challenge the assumptions of the prevailing management paradigms around knowledge, and to bring the work of social sciences to bear on business challenges. Establishing a case for the value of organizational interactional expertise, and encouraging investment in developing the competencies of teams to act on the knowledge assets that have been developed is a way to do this going forward. Specifically, this research suggests that knowledge based businesses who work closely with other organizations to solve problems may want to reconsider their knowledge management investments and look for ways to create fluency among their employees that gives them legitimacy in talking with other organizations about problems. It also suggests that time spent talking about problems and developing a capacity to interact about a problem is not wasted, it is in fact valuable in co-constructing an understanding of the problem and how to solve it.

From a practical perspective, the identification of these three practices of organizational interactional expertise provides a framework for thinking differently in business about

knowledge management and the value of dialog within the portfolio of knowledge that can be managed. The importance of an ability to develop and maintain fluency and to participate in conversations as an interactional expert is supported by this research. Creating space in the business vocabulary of knowledge management to allow for the emergent ways in which interactional expertise is developed through immersion in the language and context of business gives new weight to the importance of person to person dialog as opposed to person to system efficiency models supported by management approaches to create, capture, and store fixed knowledge assets. The practices identified are not overly complex, nor is the knowledge accomplishing taking place. While they do not disavow the place of systems within a knowledge management portfolio, they serve to take the emphasis off of systems and their inherent tangible assets and move to how and when people communicate with people to create a capacity to act.

This research is not intended to make a case for advisory services as a business. It is not suggested that consultancies have all the answers—clearly they do not, and they have their own problems internally as well (see Smith & Quirk, 2004). This dissertation does suggest that participation in problem framing and solving by organizations that stand outside of the traditional business structure and who may lack hands on experience with whatever it is that the business does, whether that participation is from a consultancy, a grassroots organization, a regulating agency, another business line within the same company, or other, is valuable. Making a case for organizational interactional expertise as an enactment of knowledge then opens the door to examine how it might work in other scenarios, for example, within a business but across departments or business units, between regulators and the industries they regulate, or any other scenario in which it might make sense. For example, it is possible that the problems at BP might have surfaced differently if there was an understanding of how teams with different types of

contributory expertise in their own areas of well drilling could effectively and fluently be a part of larger conversations about safety and the environment—if there was a forum for interactional experts around the company to come together and collectively work to address questions or problems that were being raised.

The data collected make a strong case for organizational interactional expertise as an enactment through practices of collectively constructed knowledge both internally (within the consultancy) and externally (between the consultants and the clients). This indicates that it is possible for people to productively engage in problem solving in areas where they potentially do not have contributory expertise. The idea of interactional expertise as a way to see knowledge in action provides a way for businesses to ask new questions about their knowledge assets—namely being interested in *how knowledge is put to work* and the practices that support knowledge based actions rather than asking the object based question of *what is organizational knowledge*.

Limitations and Lessons Learned

There are certain limitations with the scope of this research. The population studied is within a boutique consulting firm that offers advisory services to clients. It is inherently a knowledge based organization, designed to be interested in and contribute to business problems outside of its own environment. It is expected that taking the approach and model used here and applying it to other scenarios would flex the proposed practices and identify other context appropriate knowledge accomplishing activities. For example, looking at how internal business divisions interact and problem solve, the ways in which regulatory oversight is positioned in conversations, and how partner organizations jointly identify or solve for problems are possibilities. The practices are broad enough to potentially prove to be universal, however I

would anticipate that the knowledge accomplishing activities may be more environmentally specific.

This data set is limited to primarily Delta Consulting on site observations. Client interaction was recorded in notes through participation in client meetings; however, clients were not interviewed specifically about how or if they perceived Delta Consulting as experts. In many of the episodes, there was observed conversation between Delta Consulting and the clients to look for indications of acceptance of Delta Consulting's expertise, however, additional research may want to consider ways to be more attentive to the client perspective. This dimension is not accounted for in this research, but offers a rich opportunity for follow on discussion and exploration to better understand the client perspective and the ways in which clients perceive the communicative moves being made to establish expertise.

In reflecting back on the data collection timeframe, the most significant lesson learned is that I should have done a data check at about five weeks to step back and see what was being collected. From there, I may have been able to do an early coding for episodes, and tracked the "in flight" episodes more closely through the remainder of the timeframe. Similar to Orlikowski's observation (2002, p. 255) that over time she became more "strategic" in her choices, I believe I could have narrowed my focus more quickly to be more precise with data collection.

The theories applied also represent a limitation. I worked primarily from a practice based methodology and with the model of expertise proposed by Collins and Evans (2007). Other theories of organizational phenomena including, for example, organizational learning, could provide different perspectives. Tying the ways in which the consultants learn and adapt to new

information from the clients may be an interesting way to extend this research in a new direction. An additional limitation is the focus on connecting knowledge and expertise through the path established by Collins and Evans (2007) and staying on the dimension of interactional expertise. This serves to keep the research grounded in communication, but looking at how organizational knowledge progresses through stages of knowledge/expertise may be an area for future research as well.

Additional Research Opportunities

In addition to extending the population and the theory, there are other opportunities for additional research that come from this work. This research provides three practices and related knowledge accomplishing activities that drive organizational interactional expertise. Future research could further investigate the outcomes of these practices relative to business decisions, risk identification and mitigation, or value created. Research more grounded in management theory could look at issues of power and control and how they relate to the dialog used to create interactional expertise. Another area of interest may be the ways in which teams form and un-form around problematic situations, and the fluidity with which the consultants move between teams. These types of pursuits can leverage this work as a starting point for working with interactional expertise as it relates to these concerns.

The research questions pursued a goal of establishing an argument for organizational interactional expertise and its application in business settings. From the premise of being able to see organizational interactional expertise within work practices, additional questions can be considered regarding dimensions and extensions of the idea. For example, Collins and Evans (2008) and Orlikowski (2002) both consider the ways in which interactional expertise or

knowing in practice respectively can be passed along to others. The ways in which the community manages the entry and exit of individuals and how the practices and activities support renegotiation of expertise would be an interesting area for further analysis.

This research has not attempted to build a metric that can measure the impact or effect of organizational interactional expertise. This type of measurement may be necessary to successfully introduce the concept into business, however, doing so was beyond the scope of these research questions. Additional work in developing a metric may focus on the success or failure of business deals where interactional expertise is intentionally brought into play, or ways in which risk mitigation occurs when interactional experts are included in a conversation. This requires extended exposure of the concept to a workplace that is open to this type of vocabulary, so an accepted measurement may be a ways off in development.

New questions have come from this initial research related to the model. Continuing to use the model proposed by Collins and Evans (2007), a question to ask is when interactional expertise really shifts to become contributory knowledge in problem solving or analytical skills. At what point does a consultancy or any outside participant begin to provide contributory knowledge regarding how to frame problems into actionable questions start to take over from a fluency in talking with the client about their problems? And what roles do referred expertise and primary knowledge play? Further research in this area could also delve deeper into the client or partner experience, look between groups within a single organization, or examine other consulting models to see if the three identified practices are consistently rendered.

While this research agenda has responded to the question of how organizational interactional expertise is evidenced through knowledge accomplishing activities, it has also

opened additional lines of questioning. The model proposed together with the practice based framework used can provide a way of extending the idea of interactional expertise in useful and interesting ways.

Summary

In considering how organizational interactional expertise is constructed using knowledge accomplishing activities, the practices and activities identified provide a framework for continuing to flex how we understand expertise as an enactment of knowledge. It extends the theoretical development done in prior practice based studies that work to move the conversation away from the “knowledge-as-object” (Orlikowski, 2002, p. 271) while introducing the idea of organizational interactional expertise as a communicative enactment of knowledge. Similar to the suggestion by Orlikowski (2002, p. 270) to “consider identity as an ongoing accomplishment,” the existence of interactional expertise can be considered an ongoing accomplishment seen in the continuous communication between the consultants and between the consultant and their clients, as they incorporate more and more of the communicative skills needed to work together on problem solving. The emergent solutions that come from these conversations are not produced from a set of knowledge assets, or from any individual understanding. Rather, they come from the collective practices through which interactional capabilities are both developed and exercised throughout the duration of the episodes.

With this approach, there is no need to argue whether organizational interactional expertise represents tacit or explicit knowledge—it is neither. Rather, it is a way of conceptualizing “knowing in practice” as an “enacted capability” (Orlikowski, 2002). It is only through communication that organizational interactional expertise collectively exists, and I suggest that once the communication stops, the competency can only be reconstituted; it cannot

be maintained in a static state. The ongoing constitution and reconstitution of interactional expertise brings both into play in meaningful ways, relying on the assets of tangible documentation and the capabilities of communities of practice (as seen in the “globies” description) but without resorting to objectifying some outcome or otherwise capturing *expertise* as a *thing* that can be cataloged and duly processed. By intentionally staying away from prioritizing what is tangibly produced and instead focusing directly on the communication that takes place and how it manifests over time through defined practices, this research makes a contribution to the growing body of practice based work in organizational knowledge and the efforts of others to shift the agenda to a more action based perspective.

This work continues to push the discussion of how to synchronize theorizing of organizational knowledge and knowledge management, where the former is aligned more closely with social sciences, the latter with management science. The work by Spender (2008) and Kraaijenbrink, Spender, and Groen (2010) to suggest a reframing of traditional management theories is supported by this work in that it provides a way to re-conceptualize organizational knowledge as being most valuable when applied in joint problem solving across disciplines. If the importance of interactional expertise is understood through the ways in which it materializes in the consultant/client interplay, it is possible to extend the idea of knowledge management away from the traditional resource based (read object based) perspective and into a more “dynamic and subjectivist framework” (p. 350). By creating a research platform from which the practices can be further explored and understood, and focusing on the continual reconstruction of expertise that occurs in conversations over time, without privileging an artifact based outcome, we can start to push theoretical discussions of both knowledge as practice and the resource based view of the firm.

As Spender (2008) points out, knowledge management is largely about deriving economic value from organizational knowledge, but if “people had the knowledge they needed management would be unnecessary” (p. 161). The management paradigm will not stray far from the goal of economic value, but it can be pushed on the point of what is really necessary. In extending the theoretical discussion, this research also provides a different vocabulary for businesses to consider in defining their knowledge management portfolio of investments, leaving room for dialog and emergent thought in place of capture, storage, and retrieval of hard assets.

Encouraging a focus on communicative skills and seeing the application of traditional knowledge assets in problem solving can stretch the managerial focus on outputs rather than on practices. By staying firmly grounded in knowing in practice rather than in knowledge as an object, it is possible to reframe managerial discussions on organizational knowledge. If conversations in pursuit of knowledge are really opportunities to develop interactional skills that support creative and innovative problem definitions and solutions, then the suggestion that the pursuit itself is inefficient or costly becomes less persuasive. Whether this can be successfully introduced into the business vernacular and decision processes for organizational knowledge investment and development remains to be seen. However, the framework provides a basis for having the discussion and attempting to create change.

It is easy to get caught up in the analysis of the moves being made, the ways in which Delta Consulting positions itself, and the efforts made to connect with clients. As technical as any research makes it appear, there is an understanding at an everyday level that it can be pretty simple. As an interviewee with no background at all in communication theory nicely summed up in an interview about his experiences:

“At the end of the day.... it’s mostly about people talking to people”

(Kyle, 050811.17:49)

REFERENCES

- Ackoff, R. L. (1989). From data to wisdom. *Journal of Applied Systems Analysis*, 16, 3–9.
- Alvesson, M. and Robertson, M. (2006) "The best and the brightest: the construction, significance and effects of elite identities in consulting firms." *Organization*, 13 (2): 195-224.
- Allee, V. (2000, July/August). Reconfiguring the value network. *Journal of Business Strategy*, 21(4).
- Anderegg, W. R. L., Prall, J., Harold, J., & Schneider, S. (2009). Expert credibility in climate change. *Proceedings of the National Academy of Sciences*, 107(27), 12107–12109.
- Argote, L. (1999). *Organizational learning: Creating, retaining and transferring knowledge*. New York, NY: Springer.
- Argyris, C. (1999). *On organizational learning* (2nd ed). Malden, MA: Blackwell Publishing.
- Argyris, C., Putnam, R., & Smith, D. (1985). *Action science*, San Francisco, CA: Jossey-Bass.
- Barley, S. R. (1996). Technicians in the workplace: Ethnographic evidence for bringing work into organizational studies. *Administrative Science Quarterly*, 41, 404–441.
- Berger, P., & Luckmann, T. (1966). *The social construction of reality: A treatise in the sociology of knowledge*. New York, NY: Anchor.
- Bingham, C., Eisenhardt, K., & Davis, J. (2010). Opening the black box: What firms explicitly learn from their process experiences. Conference Proceedings: Strategic Management at the Crossroads. Strategic Management Society.
- Boisot, M. (1998). *Knowledge assets: Securing competitive advantage*. Oxford, UK: Oxford University Press.
- Bollinger, A., & Smith, R. (2001). Managing organizational knowledge as a strategic asset. *Journal of Knowledge Management*, 5(1), 8–18.
- Borgatti, S. P., & Cross, R. 2003. A relational view of information seeking and learning in social networks. *Management Science*, 49(4), 432–445.
- Broder, J. (2011, January 5). Blunders abound before Gulf spill, panel says. *The New York Times*, pp. A14.
- Bronti, N. (2001, March/April). The rising star of the chief knowledge officer. *Ivey Business Journal*, pp. 20–25.

- Brown, J. S., & Duguid, P. (1991). Organizational learning and communities-of-practice: Toward a unified view of working, learning and innovation. *Organizational Science*, 2, 40–57.
- Brown, J.S., & Duguid, P. (2000). Balancing act. How to capture knowledge without killing it. *Harvard Business Review* 78(3), 73–80.
- Brown, J.S., & Duguid, P. (2001). Knowledge and organization: A social-practice perspective. *Organization Science*, 21, 198–213.
- Choo, C. (1998). *The knowledge organization: How organizations use information to construct meaning, create knowledge, and make decisions*. New York, NY: Oxford University Press.
- Clandinin, D.J. (2007). *The handbook of narrative inquiry: Mapping a methodology*. Thousand Oaks, CA: Sage.
- Cloud, J. (2008, February 28). The science of experience. *Time*. Retrieved from <http://www.time.com/time/health/article/0,8599,1717927,00.html>
- Collins, H., & Evans, R. (2002). The third wave of science studies: Studies of expertise and experience. *Social Studies Science*, 32, 235-295.
- Collins, H., & Evans, R. (2007). *Rethinking expertise* (Vol. 3). Chicago, IL: University of Chicago Press.
- Collison, C., & Parcell, G. (2004). *Learning to Fly: Practical knowledge management from leading and learning organizations*. Chichester, UK: Capstone Publishing.
- Cook, S., & Brown, J. S. (1999). Bridging epistemologies: The generative dance between organizational knowledge and organizational knowing. *Organization Science*, 10, 381-400.
- Cross, T., & Thomas, R. (2009). *Driving results through social networks: How top organizations leverage networks for performance and growth*. San Francisco, CA: Jossey-Bass.
- Czarniawska-Joerges, B. (2004). *Narratives in social science research*. Thousand Oaks, CA: Sage.
- Czarniawska-Joerges, B. (2007). Narrative inquiry in and about organizations. In D. J. Clandinin (Ed.), *The handbook of narrative inquiry: Mapping a methodology* (pp. 383–404). Thousand Oaks, CA: Sage, pp 383-404.
- Davenport, T., Stoddard, D. (1994, June). Reengineering: Business change of mythic proportions? *MIS Quarterly*, 18, 121–127.

- Davenport, T., De Long, D., & Beers, M. (1998). Successful knowledge management projects. *Sloan Management Review*, 39(2), 43–57.
- Davenport, T., Harris, J. G., De Long, D. W., & Jacobson, A. L. (2001). Data to knowledge to results: Building an analytic capability. *California Management Review*, 43(2), 117–138.
- Davenport, T., & Prusak, L. (2000). *Working knowledge: How organizations manage what they know*. Cambridge, MA: Harvard Business School Press.
- Davenport, T., & Short, J. (1990, Summer). The New Industrial Engineering: Information Technology and Business Process Redesign. *Sloan Management Review*, 31(4), 11–27.
- Denzin, N. K., & Lincoln, Y. S. (1998). The landscape of qualitative research: Theories and issues. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage.
- Drucker, P. (1988, original). *The coming of the new organization*. *Harvard Business Review on Knowledge Management* [1998 reprint]. Boston, MA: Harvard Business School Press.
- Drucker, P. (1957). *Landmarks of tomorrow*. New York, NY: Harper & Row.
- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (1995). *Writing ethnographic fieldnotes*. Chicago, IL: University of Chicago Press.
- Garvin, D. (1998). Building a learning organization. *Harvard Business Review on Knowledge Management* [original publication 1993 July-August]. Boston, MA: Harvard Business School Press.
- Gherardi, S. (2006). *Organizational knowledge: The texture of workplace learning*. Malden, MA: Blackwell Publishing.
- Gibran, Kahlil (n.d.). BrainyQuote.com. Retrieved from <http://www.brainyquote.com/quotes/quotes/k/kahlilgibr403100.html>
- Glaser, B. G., & Strauss, A. (1967). *Discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine de Gruyter.
- Global Industry Analysts (2008). *Global knowledge management market revenues*. Retrieved from http://www.capterra.com/knowledge-management-software/software_news/prweb1553554.
- Habermas, J. (1971). *Knowledge and human interests*. Boston, MA: Beacon Press.
- Hagel, J., Brown, J. S., & Davison, L. (2010). A better way to manage knowledge. *Harvard Business Review Online*. Retrieved from <http://blogs.hbr.org/bigshift/2010/01/a-better-way-to-manage-knowled.html>

- Hammer, M. (1990, July/August). Re-engineering work: Don't automate, obliterate. *Harvard Business Review*, 104-112.
- Hammer, M. (1998). *Beyond reengineering: How the process-centered organization is changing our work and our lives*. New York, NY: HarperBusiness.
- Hansen, M. (2002). Knowledge networks: Explaining effective knowledge sharing in multiunit companies. *Organization Science*, 13,(3), 232–248.
- Heckscher, C., & Donnellon, A. (1994). Defining the post-bureaucratic type. In C. Heckscher & A. Donnellon (Eds.), *The post bureaucratic organization: New perspectives on organizational change* (14-62). Thousand Oaks, CA: Sage.
- Herr, K., & Anderson, G. (2005). *The action research dissertation: A guide for students and faculty*. Thousand Oaks, CA: Sage.
- Heleat, C., & Raubitschek, R. (2002). Product sequencing: Co-evolution of knowledge, capabilities, and products. In C. W. Choo & N. Bontis (Eds.), *The strategic management of intellectual capital and organizational knowledge* (961-979). New York, NY: Oxford University Press.
- Jones, R. (2003). Measuring the benefits of knowledge management at the financial services authority: a case study. *Journal of Information Science*, 29, 475.
- Kalling, T., & Styhre, A. (2003). *Knowledge sharing in organizations*. Malmö, Denmark: Copenhagen Business School Press.
- Kraaijenbrink, J., Spender, J.-C., & Groen, A. (2010). The resource-based view: A review and assessment of its critiques. *Journal of Management*, 36, 349–372.
- Kuhn, T., & Jackson, M. (2008). Accomplishing knowledge: A framework for investigating knowing in organizations. *Management Communication Quarterly*, 21, 454–485.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Lelic, S. (2005). Death of a CKO: The evolving nature of knowledge leadership. *InsideKnowledge*, 8(6). Retrieved from www.ikmagazine.com/xq/asp/txtSearch.competitive+intelligence/exactphrase.1/sid.0/articleid.36D7D686-9610-423E-85FE-32BD83395274/qx/display.htm
- Leonard, D., & Swap, W. (2005). *Deep smarts: How to cultivate and transfer enduring business wisdom*. Boston, MA: Harvard Business School Press.
- Liebowitz, J. (2008). *Making cents out of knowledge management*. Plymouth, UK: Scarecrow Press.

- Lindlof, T.R., & Taylor, B. C. (2004). *Qualitative communication research methods, second edition*. Thousand Oaks, CA: Sage.
- Lövbrand, E., Pielke, R., & Silke, B. (2010). A democracy paradox in studies of science and technology. *Science Technology & Human Values*.
http://sciencepolicy.colorado.edu/admin/publication_files/2010.28.pdf.
- Malhotra, A., Gosain, S., & El Sawy, O. (2005). Absorptive capacity configurations in supply chains: Gearing for partner-enabled market knowledge creation. *MIS Quarterly*, 29(1), 145–187.
- McNichols, D. (2010). Optimal knowledge transfer methods: a Generation X perspective. *Journal of Knowledge Management*, 14(1), 24–37.
- Monge, P., & Contractor, N. (1999). Emergence of communication networks. F. Jablin & L. Putnam (Eds.), *The new handbook for organizational communication* (pp. 440-502). Thousand Oaks, CA: Sage Publications.
- Monge, P., & Contractor, N. (2003). *Theories of communication networks*. Oxford, UK: Oxford University Press.
- Nonaka, I. (1991, November-December). The knowledge creating company. *Harvard Business Review*, 69, 96-104.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organizational Science*, 5, 14–37.
- Nonaka & Takeuchi (1995). *The knowledge creating company: How Japanese companies create the dynamics of innovation*. Oxford, UK: Oxford University Press.
- O'Dell, C., & Grayson, C. (1998). *If only we knew what we know: The transfer of internal knowledge and best practice*. New York, NY: The Free Press.
- O'Reilly, C. A., III. (1982, December). Variations in decision makers' use of information sources: the impact of quality and accessibility of information. *Academy of Management Journal*, 25, 756–771.
- Orlikowski, W. J. (2002). Knowing in practice: Enacting a collective capability in distributed organizing. *Organization Science*, 13, 249–273.
- Orr, J. (1996). *Talking about machines: An ethnography of a modern job*. Ithaca, NY: Cornell University Press.
- Osterlund, C., & Carlile, P. (2004). Relations in practice: Sorting through practice theories on knowledge sharing in complex organization. *The Information Society*, 21, 91–107.

- Pink, D. (2006). *A whole new mind: Why the right brainers will rule the future*. New York, NY: The Berkley Publishing Group.
- Poland, B. (2001). Transcription quality. In K/ Gubrium & J. A. Holstein (Eds.), *Handbook of Interview Research: Context & method* (pp. 629–649). Thousand Oaks, CA: Sage.
- Polanyi, M. (1966). *The tacit dimension*. New York, NY: Doubleday Anchor.
- Pollard, D. (2006). The PKM-Enabled organization. *Salon.com*. Retrieved from <http://blogs.salon.com/0002007/2006/09/27.html>.
- Rowley, J. (2007). The wisdom hierarchy: Representations of the DIKW hierarchy. *Journal of Information Science*, 33, 163–180.
- Saint-Onge, H., & Wallace, D. (2003). *Leveraging communities of practice for strategic advantage*. New York, NY: Butterworth-Heinemann.
- Schultze, U. (2000). A confessional account of an ethnography about knowledge work. *MIS Quarterly*, 24, 3–41.
- Senge, P. (2006). *The fifth discipline: The art & practice of the learning organization*. New York, NY: Doubleday.
- Silverman, D. (2006). *Interpreting qualitative data* (3rd ed.). Thousand Oaks, CA: Sage.
- Smith, N. C., & Quirk, M. (2004). From grace to disgrace: The rise and fall of Arthur Andersen. *Journal of Business Ethics Education*, 1, 91–130.
- Spender, J.C. (1996). Making knowledge the basis of a dynamic theory of the firm [Winter Special Issue]. *Strategic Management Journal*, 17, 45–62.
- Spender, J.C. (1998). Pluralist epistemology and the knowledge-based theory of the firm. *Organization Science*, 5(2), 233–256.
- Spender, J.C. (2008). Organizational learning and knowledge management: Whence and whither? *Management Learning*, 39, 159.
- Spira, J. (2005). In praise of knowledge workers. *KM World*. Retrieved from www.kmworld.com/Articles/News/News-Analysis/In-praise-of-knowledge-workers-9605.aspx.
- Sveiby, K. E. (1997). *The new organizational wealth: Managing and measuring knowledge-based assets*. San Francisco, CA: Berrett-Koehler.

- Sveiby, K. E. (2001). A knowledge-based theory of the firm to guide strategy formulation. *Journal of Intellectual Capital*, 2,(4), Retrieved from www.sveiby.com.
- Taylor, J., & Van Every, E. (2000). *The emergent organization: Communication as its site and surface*. Mahwah, NJ: Lawrence Erlbaum.
- Thurrow, L. (2004, January). Help wanted: A chief knowledge officer. *Fast Company*, Retrieved online <http://www.fastcompany.com/magazine/78/helpwanted.html>.
- Tsoukas, H., & Vladimirou, E. (2001). What is organizational knowledge? *Journal of Management Studies*, 38, 973–991.
- Wernerfelt, B. (1984), The resource-based view of the firm. *Strategic Management Journal*, 5 (2), 171–180.
- Wernerfelt, B. (1995), The resource-based view of the firm: Ten years after. *Strategic Management Journal*, 16(3), 171–174.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York, NY: Cambridge University Press.
- Wenger, E., & Snyder, W. (2000, January-February). Communities of practice: The organizational frontier. *Harvard Business Review*, 139–145.
- Weick, K. (1988). Enacted sensemaking in crisis situations. *Journal of Management Studies* 25, 305–317.
- Urbina, I. (2010). Workers on doomed rig voiced concerns about safety. *The New York Times*, July 21, 2010, pp. A1.
- Yates, J. (1989). *Control through communication: The rise of system in American management*. Baltimore, MD: Johns Hopkins University Press.

APPENDIX A

OUTLINE FOR FIELD NOTES

This journal is intended to track key events that occur throughout the day in the natural environment.

Field Notes – Date (Day of Week)	
Formal Meetings	•
Narrative of the Day	
Documentation Archived	
Follow up/ Clarification Questions / Answers	
Paraphrased or exact quotes of interest	
Interesting events, results, or discussions	
Planning Activities	
People to talk to about things that occurred in this day	
Personal Notes	
Things I learned, things to improve, general observations	

APPENDIX B

INTERVIEW GUIDE

Semi-Structured Interview Questions

This study uses a semi-structured interview approach to gather qualitative data regarding the in-practice development of organizational knowledge and expertise. As the goal is to find ways to see organizational phenomena within business practices, individual stories of “what happens” are meaningful and hard to predict. The following prompts are anticipated to be used to generate discussion and guide the interviews to the appropriate topics.

Participant Background

- ☐ What is your primary area of focus at work (domain expertise, delivery, business development, etc., are all reasonable areas to explore, prompt for more depending on the answer)? Follow up prompts can include:
 - Generally, what kind of work do you do – what would a typical day/week look like? What kinds of questions do you get, decisions do you make, problems you encounter?
 - How involved are you in organizational networks that are formal? How often do you talk with people outside of your immediate area?
- ☐ I’m specifically interested in understanding what happens during a proposal situation. What kinds of proposals have you worked on recently? How did you approach it?

Stories of Organizational Knowledge at Play

- ☐ How do you use organizational resources to help you with proposals or deliverables?
- ☐ Walk me through your proposal process – where do you start/end? What were the steps you followed? How did you communicate throughout?
- ☐ What are you most trying to establish about your company when you build a deliverable or proposal? How do you find the pieces and parts you need?

- ❑ When do you most often need to look to organizational sources for help? (listen for urgency, accuracy, source of the request, environmental factors) Give me an example of a situation where you would reach out for more information.
- ❑ Can you give me an example of a time recently when you were asked to solve a problem or respond to a question, but it wasn't something your group had done before?
 - What was it about the problem that was different?
 - What did you use to get started? (listen for/prompt for options, pros/cons, beliefs, designated process)
 - What did you do with what you found? How did you apply it?
 - What didn't you use? Why not?

Client Acceptance

- ❑ Give me an example of a good/bad experience you've had in presenting to a client. What kinds of questions did they ask about your (proposal/deliverable)?
- ❑ What do you feel makes your group credible in talking about the problem presented?
- ❑ What do you think is most important to (clients/others) in thinking your organization can help/contribute?
- ❑ Describe a specific example of how you have worked with a client to present a proposal or a deliverable. What steps did you go through, and how did you communicate your position?

APPENDIX C

INTERVIEW SUMMARY

This study uses a semi-structured interview approach to gather qualitative data regarding the in-practice development of organizational knowledge and expertise. As the goal is to find ways to see organizational phenomena within business practices, individual stories of “what happens” are meaningful and hard to predict.

Summary of interviews conducted.

Person	Role	Date
Robert Siegel	VP, Denver Office Lead, Delta Consulting	April 22, 2011
James Marchese	VP, Denver, Delta Consulting	May 9, 2011
Kylesy Winkler	Principal, Delta Consulting	May 18, 2011
Kyle Miller	BD, Delta Consulting	May 16, 2011
Nate Rocco	COO, Delta Consulting client	June 9, 2011
Scott Martin	SM, Delta Consulting	May 7, 2011
Jill Weisbrod	SM, Delta Consulting	May 7, 2011
Cary Payne	VP, Delta Consulting Partner	June 18, 2011
Sean Moore	SM, Delta Consulting	June 2, 2011

VP – Vice President; BD – Business Development; SM – Senior Manager; M – Manager; COO – Chief Operating Officer